



**SRE-3000
ELAN**

STRAIGHT RAIL STAIRLIFT

INCLUDING FOLDING RAIL

(Dealer: Place Label Below)

**Dealer Name
Address
Telephone No.**

**INSTALLATION MANUAL
05-13-2015
P/N 3000-I**

IMPORTANT NOTES

This straight rail stairlift is
FOR INDOOR USE ONLY
in enclosed heated locations
above 35°F (2°C).

The warranty for the Elan
Straight Rail Stairlift is
rendered null and void
if the unit is installed or maintained by
anyone other than an authorized Bruno dealer.

 WARNING
PINCH POINT! Make sure the areas above and below the folding rail are clear before operating the folding rail. Keep children and pets at a safe distance.
Failure to observe this warning could result in injury or damage to equipment.

409® is a registered trademark of the Clorox Company
Fantastik® is a registered trademark of S.C. Johnson & Son, Inc.
Lubriplate® is a registered trademark of Lubriplate Lubricants Company.

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REGULATORY INFORMATION

REGULATORY LISTINGS



This lift is intended to be installed in accordance with the current edition of:

- EN 81-40:2008 Safety rules for the construction and installation of lifts - Special lifts for the transport of persons and goods - Part 40: Stairlifts and inclined lifting platforms intended for persons with impaired mobility
- ASME A18.1:2011 Safety Standard for Platform Lifts and Stairway Chairlifts
- CAN/CSA-B613-00 (R2005) - Private Residence Lifts for Persons With Physical Disabilities
- ASME A17.5/CSA B44.1 - 2011 Elevator and Escalator Electrical Equipment
- NFPA 70: National Electrical Code®
- CSA C22.1 Canadian Electrical Code

Verify applicable local codes with the appropriate regulatory authorities.

INSTALLING DEALER RESPONSIBILITIES

The installing dealer has responsibility to report any malfunctions, safety concerns or events to the manufacturer in a timely manner. The installing dealer also has the responsibility to ensure that the users are properly trained in the use and operation of the unit.

Bruno stairway elevators shall be put into service and regularly serviced by a Bruno authorized dealer in accordance with the information provided in installation documents provided with the device.

FCC REGULATIONS

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 Subpart B of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the of the following measures:

- Reorient or relocate receiving antenna.
- Increase separation between equipment and receiver.
- Consult your dealer or an experienced radio/TV technician.

MATERIAL SAFETY DATA SHEETS

Material safety data sheets (MSDS) on materials used on this unit may be requested through the Bruno Technical Service Department.

Weight Capacity:300 lbs. (136 kg)

Speed:maximum 18 feet per minute (5.5 m/min)

Power Source:two 12V sealed, maintenance-free batteries with 24V continuous-duty charger

Motor:24 VDC, 2-pole, 50 Nm torque and 16A maximum

Drive:rack-and-pinion drive

Control:constant pressure (armrest and 2 transmitters)

Brake:1 Nm electromechanical motor brake

Maximum incline:45 degrees, specials to 52 degrees

Rail:vertical aluminum extrusion with integral drive gear rack

Seat Swivel:0, 67 and 90 degrees at the top

Battery Charger:24VDC battery charger powered by 120V wall outlet

Torque Specifications

<u>GRADE 10.9 (Metric)</u> (Roughly equivalent to US Grade 8)		
M8	Grade 8.8	225 lb.-in
M8	Grade 10.9	25 lb.-ft
M10	Grade 10.9	47 lb.-ft
M12	Grade 10.9	83 lb.-ft
M14	Grade 10.9	133 lb.-ft

CARTON CONTENTS

Thank you for purchasing a Bruno SRE-3000 Straight Rail Stairlift.

- Check the carton contents for shipping damage as soon as the cartons arrive.
- Verify the contents against the packing list **BEFORE** leaving the shop for the installation site.
- Report any discrepancies to Bruno Independent Living Aids *immediately*.

Read through the installation manual before installing the SRE-3000.

CHECK TO BE SURE THAT YOU HAVE ALL OF THE COMPONENTS BEFORE BEGINNING AN INSTALLATION.

**CHECK CARTON CONTENTS FOR SHIPPING DAMAGE
IMMEDIATELY UPON RECEIPT.**

- Damage claims must be filed within 21 days by the Dealer, not the Manufacturer.
- Bruno Independent Living Aids cannot be responsible for shipping damage.

The **SRE-3000** is shipped in **6 cartons**.

For specific part numbers and quantities of the components indicated below, please refer to the pertinent exploded view and bill of materials at the back of this manual.

CARRIAGE BOX

- complete carriage assembly with jumper
- remote control box

INSTALLATION BOX

- rail standfeet
- battery charger assembly
- tube of grease, charge cable kit
- charge contact components (left and right)
- slow down contacts (2)
- final limit assembly
- shims, screws, nuts/bolts/washers, rail joint hardware kit, nut bars

SEAT BOX

- seat assembly
- seat installation kit
- keyed remote control box (if applicable)

FOOTREST BOX

- footrest assembly
- cover kits
- footrest tool with pin

RAIL BOX

- rail (section 1 of 2)

RAIL BOX

- rail (section 2 of 2)

***Be sure you have all necessary parts and tools
before traveling to installation site.***



- ***FIX-00525 rail clamp tool (recommended - available from Bruno)***-for folding rail
- Cut-off saw (or other power saw with metal-cutting blade suitable for aluminum and steel)
- Torpedo level
- 20-foot tape measure
- Flashlight
- Power drill
- T25 drive bit suitable for a power drill
- Metric sockets : 13 mm and 17 mm
- U.S. sockets (for driving screws): 5/16" (8 mm) and 3/8" (10 mm), magnetic tip
- Metric and U.S. open-end box wrench sets
- Soft-faced or dead-blow hammer, or hard rubber or rawhide mallet
- Ratchet, 3/8 in. with 6 in. extension
- Magnetic Phillips screwdrivers
- Torque wrench (one that handles 15-80 ft-lb/20-108 Nm)
- Metric Allen wrench set
- Needle-nose pliers
- Snap ring tool for heavy-duty snap ring
- Utility knife
- Wire stripper
- Wire crimper
- fish tape
- Drill driver with *MINIMUM* 18 in. extension
- Drill bits: appropriate for floor (eg. concrete, hardwood); 3/8", min. 6" long
- Extension cords
- File
- Tin snips
- Scratch awl
- Multimeter
- Edge utility cutter
- Safety goggles/glasses

APPLICATION GUIDE

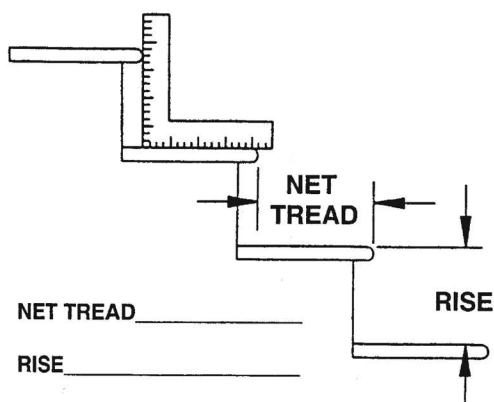


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SRE-3000 ELAN APPLICATION GUIDE AND ORDER FORM

Dealer No.: _____ P.O. No. _____ Customer: _____ Date: _____

Step 1: Determine Staircase Angle



RISE	NET TREAD						
	12"	11"	10"	9"	8"	7"	6"
6"	27	29	31	34	37	41	45
7"	30	33	35	38	41	45	
8"	34	36	39	42	45		
9"	37	39	42	45			
10"	40	42	45				
11"	43	45					
12"	45						

NOTE: ANGLES ABOVE ARE ROUNDED TO THE NEXT DEGREE. FOR ANGLES ABOVE 45 DEGREES, CONSULT BRUNO FOR SPECIAL ORDER DETAILS.

Step 2: Define Stairway Dimensions and Details

stair tread material _____ staircase width _____

(32" min. for standard unit)

lower landing material _____ obstructions _____
(ex. handrails, moldings)

upper landing material _____

Step 3: Specify Chair and Rail Details

hand (looking from bottom of stairs):

☐ left ☐ right

NOTE: All SRE-3000 carriages are set for left-hand installation when shipped from the factory.

chair upholstery

☐ tan vinyl

additional options

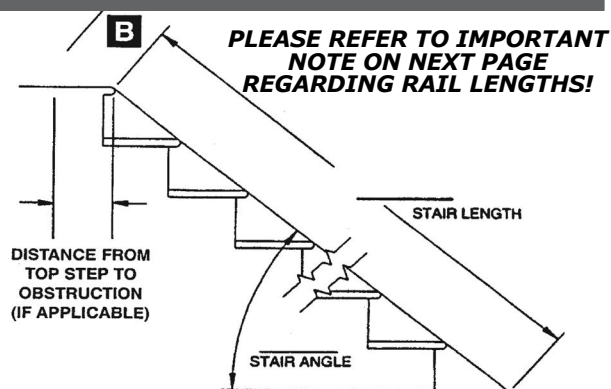
☐ folding rail

☐ adjustable clamps

_____ (indicate number of clamps)

Refer to Step 3 on following pages.

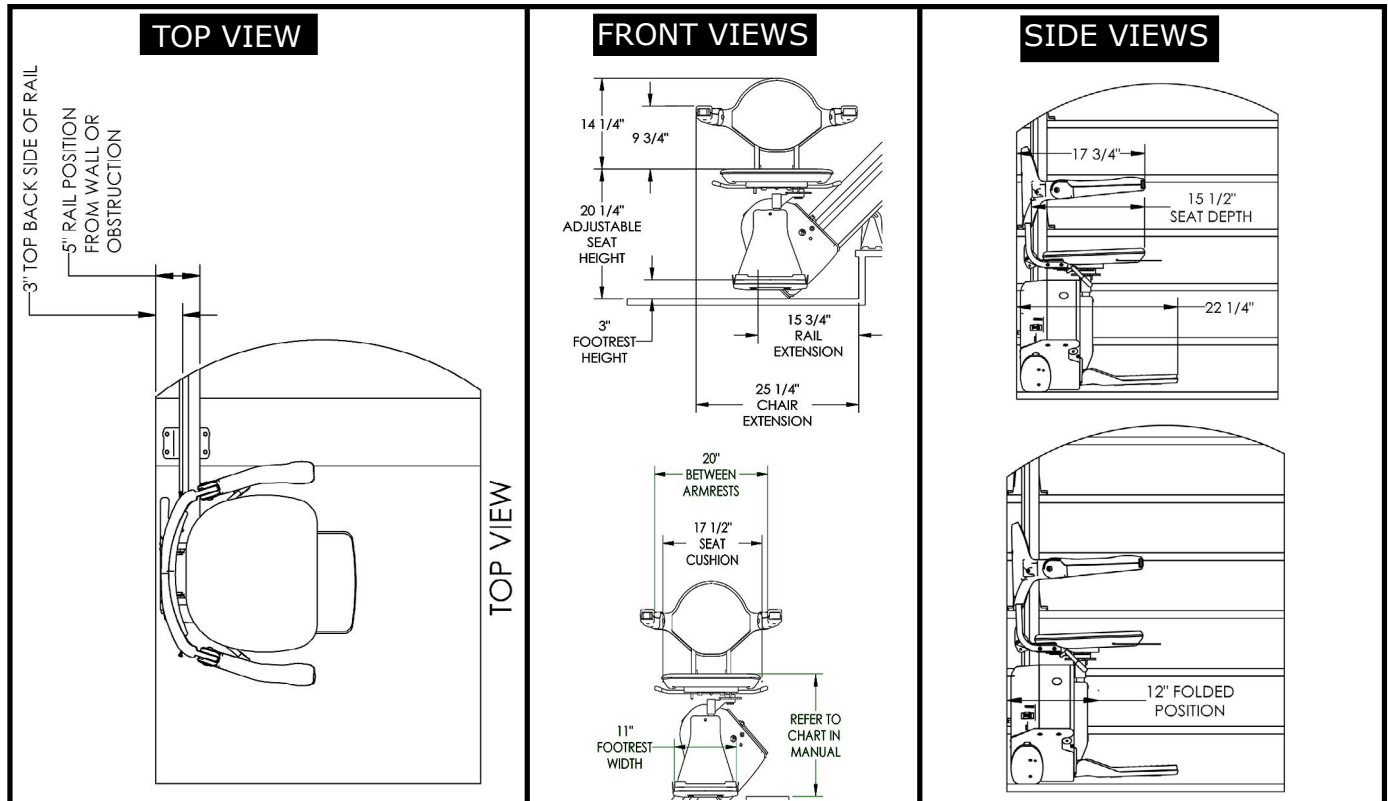
Step 4: Determine Rail Length



DETERMINE THE STAIR LENGTH: _____
ADD "B" TOP RAIL EXTENSION: _____

PLEASE REFER TO "STEP 4" ON THE FOLLOWING PAGE FOR DETAILS.

Overall Rail Length Required: _____
16' nominal (std. and folding rail) _____
18' nominal (folding rail only) _____
20' nominal (std. rail only) _____
optional track length up to 32' (31'-6" actual) _____

Step 3: SRE-3000 ELAN APPLICATION DETAILS

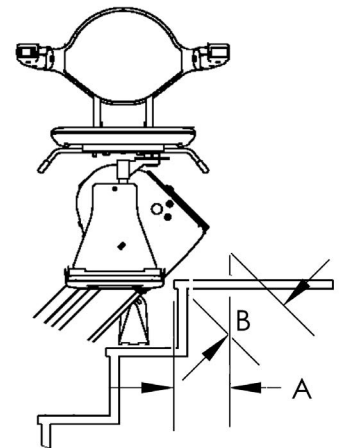
Dimensions shown in **side views** are based on 4 1/2" (114 mm) rail position from wall or obstruction.

Step 4

UPPER ENTRY/EXIT SEAT HEIGHT IN INCHES

	17	18	19	20	21	22	23	
35	1.5	2.8	4.1	5.6	7.0	8.4	9.8	A
	6.0	7.7	9.2	11.0	12.5	13.8	15.5	B
36	1.6	2.9	4.3	5.6	7.0	8.4	9.8	A
	6.2	7.9	9.4	11.1	12.6	13.9	15.8	B
37	1.7	3.0	4.4	5.7	6.9	8.4	9.6	A
	6.4	8.1	9.6	11.2	12.7	14.3	16.0	B
38	1.9	3.1	4.5	5.7	6.9	8.3	9.4	A
	6.6	8.2	9.7	11.3	12.8	14.4	16.1	B
39	2.0	3.2	4.5	5.7	6.9	8.2	9.4	A
	6.8	8.4	9.9	11.5	13.0	14.6	16.2	B
40	2.0	3.3	4.6	5.7	6.9	8.1	9.2	A
	7.0	8.6	10.1	11.7	13.2	14.8	16.3	B
41	2.2	3.4	4.6	5.7	6.8	7.9	8.9	A
	7.2	8.8	10.3	11.8	13.3	14.9	16.5	B
42	2.4	3.5	4.7	5.8	6.9	8.0	9.1	A
	7.4	9.0	10.5	12.0	13.5	15.1	16.6	B
43	2.5	3.6	4.7	5.8	6.8	7.9	9.0	A
	7.6	9.1	10.6	12.2	13.7	15.2	16.7	B
44	2.7	3.7	4.8	5.8	6.8	7.9	8.9	A
	7.8	9.3	10.8	12.3	13.8	15.4	16.9	B
45	2.8	3.8	4.8	5.8	6.8	7.8	8.8	A
	8.0	9.5	11.0	12.5	14.0	15.5	17.0	B

The chair extends approximately 5-8" (127-203 mm).

**Alternate Seat Height Dimensions**

measured at lower level:
21", 22", 23"

Reduce the "B" dimension 1.5" for each inch the seat height is increased.

If A is < 3 or B is > 12, then one or more adjustable stand foot sets (SRE-30150) are required.

DIMENSIONS ON CHART ARE WITH THE CHAIR IN THE LOWEST POSITION: 20"/500 MM.

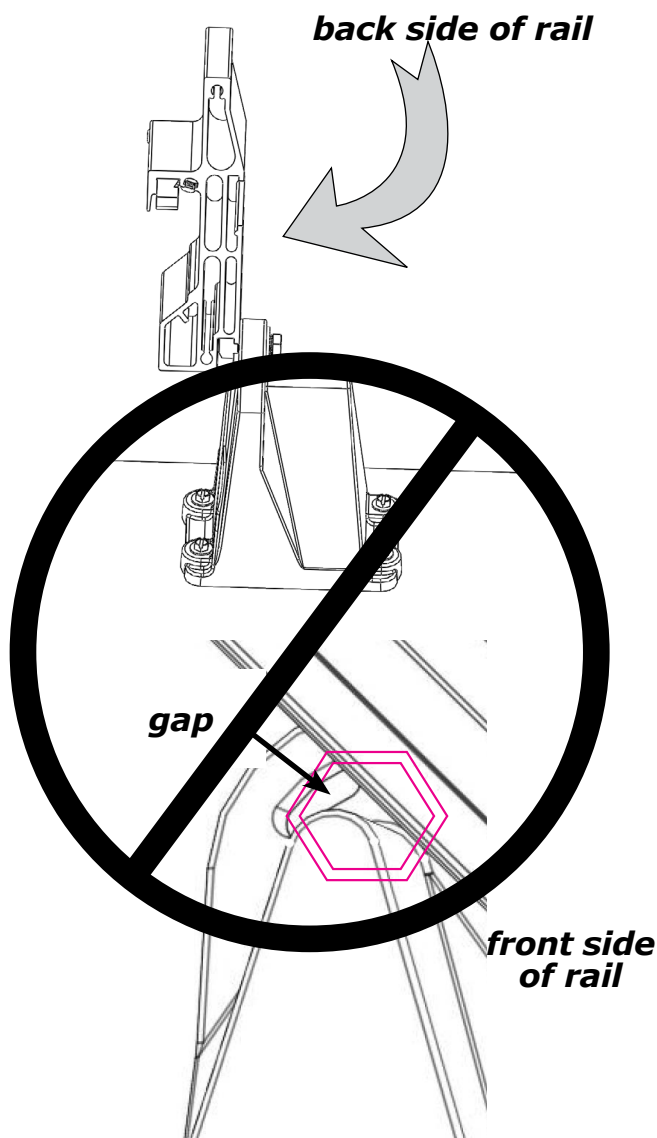
Critical Information **for Proper Installation of Standfeet** **on Bruno SRE-3000 and SRE-2010 Series** **Stairway Elevators**

To ensure proper installation of rail standfeet, the standfoot-to-rail orientation **MUST** be as shown above and below the check mark.

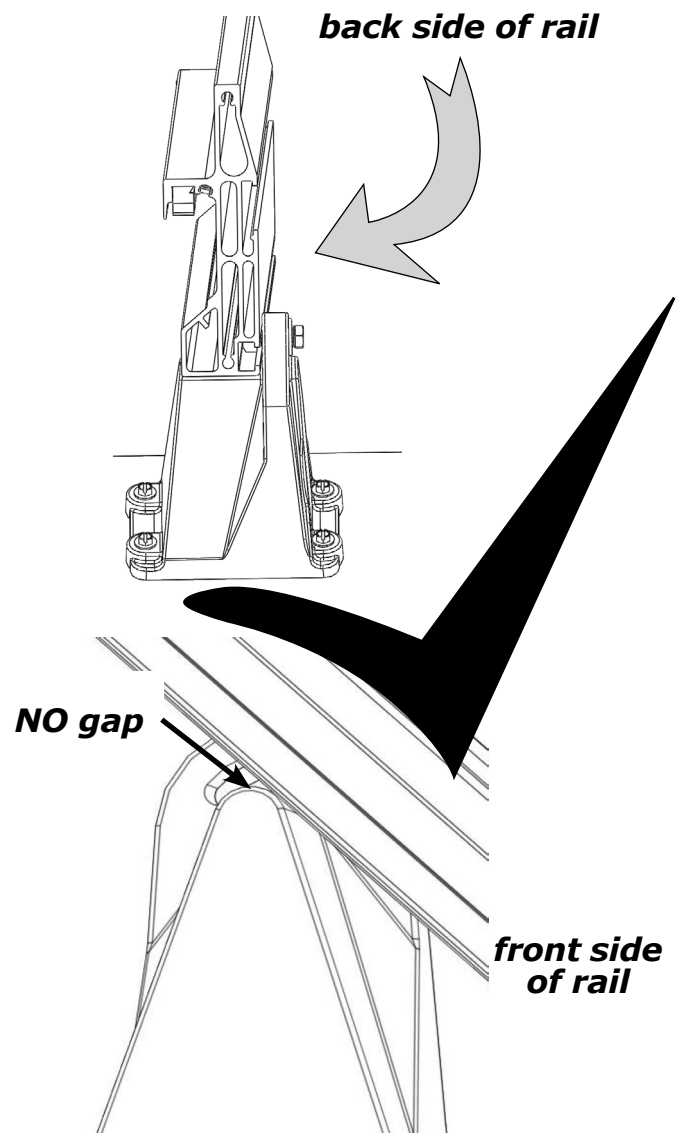


Failure to install the standfeet in the correct orientation may lead to serious personal injury and/or property damage!

incorrect



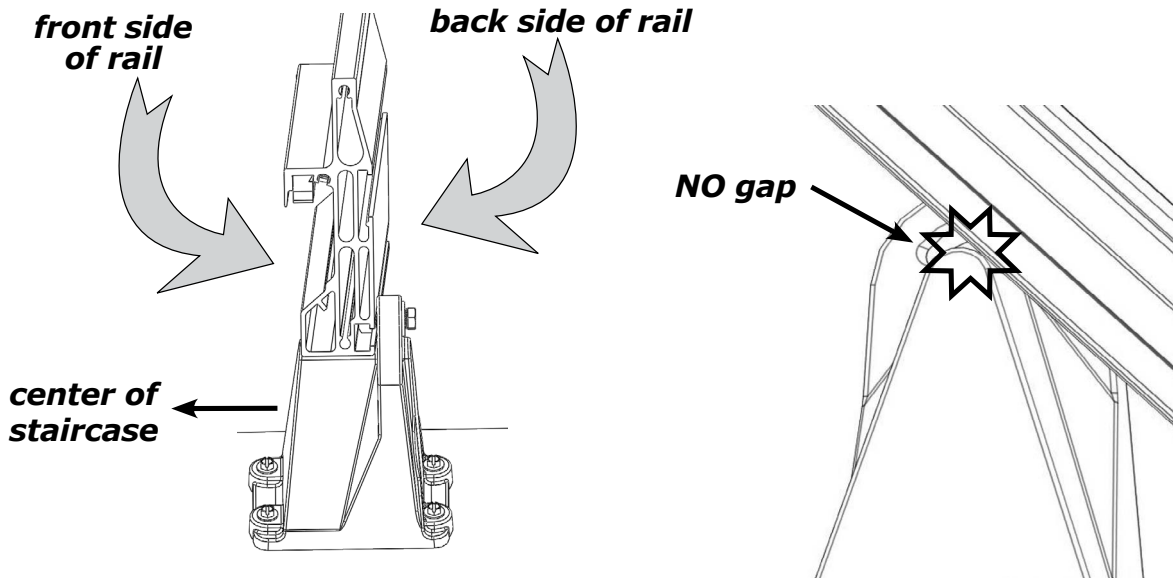
CORRECT!



Please refer to the installation manual for detailed instructions pertaining to standfoot installation.

IMPORTANT SAFETY NOTES!

1. Never remove the lower end cap from the rail after the rail is set in position. The rack will slide out the bottom of the rail and the carriage will fall down the staircase if the end cap is removed.
2. Always install the standfoot with the long nose facing the center of the staircase. The rail must be fully supported by the standfoot to properly handle the load.



3. Use leather gloves when handling the rail ends and when inserting the bronze charge strips into the carrier. Sharp edges of the metal may cut bare hands.
4. Always wear safety glasses when cutting rails or using a power drill to protect your eyes from stray debris.



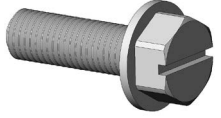
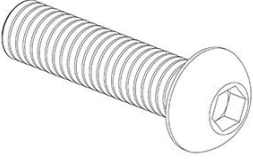
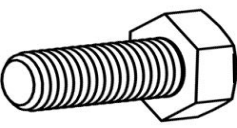
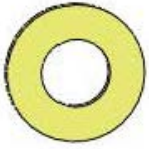
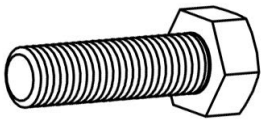
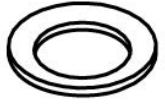
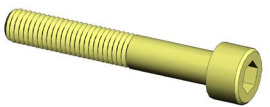
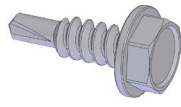
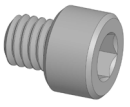
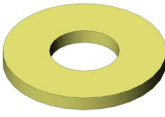
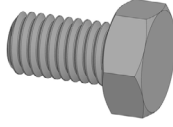
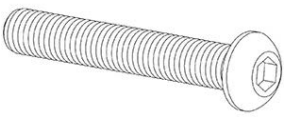
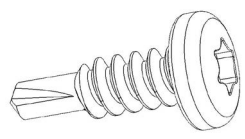
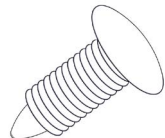
ATTENTION!

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

Before touching anything inside the carriage assembly, ground yourself by touching an unpainted metal surface on the unit such as an exposed bolt, or one of the mounting screws on the electrical panel. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.

5. Always turn the carriage circuit breaker **OFF** and ground your body to bare metal before plugging in any wire harness to the PC board or when touching the PC board. Static charge can damage electronic components.
6. Always turn the carriage circuit breaker **OFF** when working around the drive gear to prevent accidental entanglement.

SRE-3000 HARDWARE REFERENCE CHART

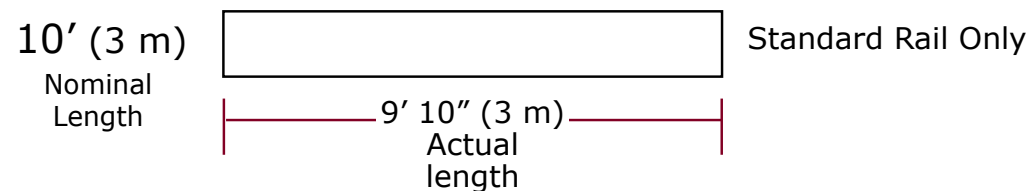
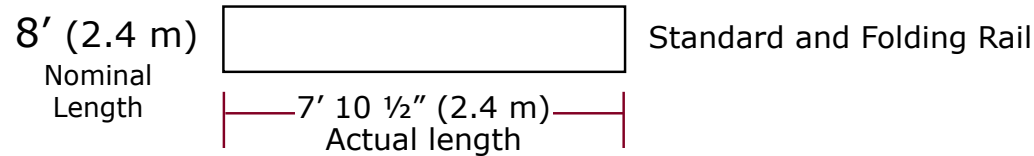
A		M8-30 HEX HEAD CAP SCREW MHCS-08013
B		5/16x18x1" LG SELF-THREADING SCREW TFS-31801
C		M6-25 BUTTON HEAD CAP SCREW MBHC-06011
D		M10-25 HEX HEAD CAP SCREW MHCS-10012
E		M10 FLAT WASHER MFSW-10001
F		M10-35 HEX HEAD CAP SCREW MHCS-10025
G		SAFETY WASHER MSLW-10001
H		SHEET METAL SCREW MSSM-63001
I		SOCKET HEAD SCREW MSHS-06007
J		SAFETY WASHER MSLW-08001
K		SELF-DRILLING HEX HEAD SCREW SDS-10002
L		SOCKET HEAD SCREW MSHS-06011
M		SPLIT RETAINING RING RTR-12502
N		WASHER FSW-31003
O		M8-14 HEX HEAD CAP SCREW MHCS-08019
P		M6-40 BUTTON HEAD CAP SCREW MBHC-06009
Q		#10-16 X 5/8" LG T-25 PAN HEAD SELF DRILLING SCREW-#3 POINT SDS-10003
R		FIN FASTENER FNF-28101

New Rail Lengths

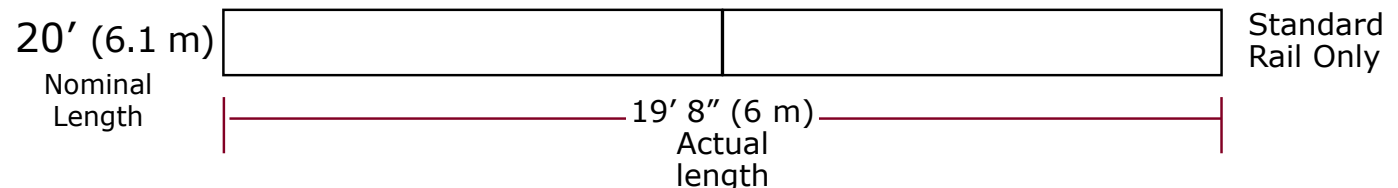
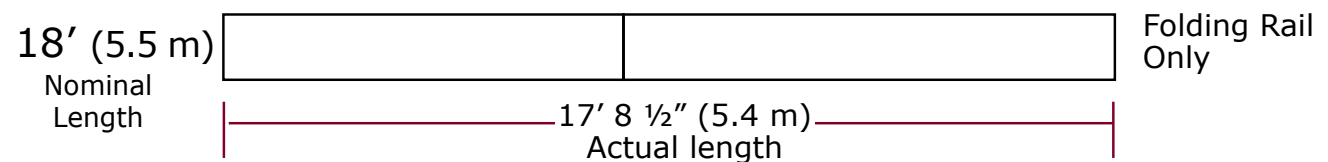
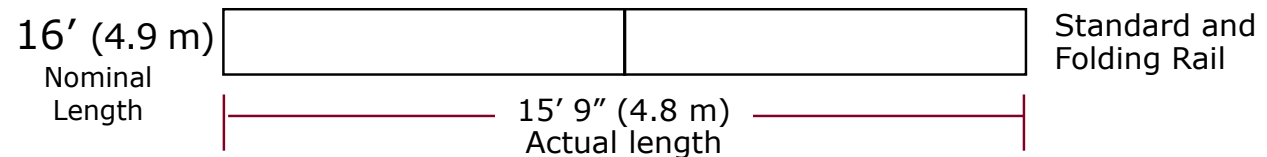
The new rail lengths differ from those shipped with other stairway elevators. Please note the proper length before cutting the rail for the final fit!

- We will still use 16' (4.8 m) and 20' (6 m) to refer to our rail lengths, but these are now nominal dimensions. The actual lengths are shown below.
- The manual folding rail option is available in the 16' nominal (4.8 m) configuration and new 18' nominal (5.5 m) maximum length option. The folding rail is **not** available in the 20' nominal (6.1 m) length.

Rail Sections



Rail Lengths



INSTALLATION

RAIL PREPARATION and INSTALLATION

1. Determine whether the stairway elevator will be installed on the right or left side of the stairs, **as viewed from the bottom of the stairs.**
2. Determine the exact rail length by placing a tape measure in a straight line on the stairs (see STEP 4 of the APPLICATION GUIDE).
3. To the rail length number, add Measurement B (see STEP 4 in the APPLICATION GUIDE)

This calculation will allow you to precisely fit the Stairway Elevator to your customer by determining the most comfortable seat-to-floor height within the space available at the top of the stairs.

4. Mark the length on the rail, as determined in the previous step.



IMPORTANT RAIL CUTTING AND RAIL SUPPORT RULES

1. **Use a minimum of (2) stand feet to support each rail section.**
2. **Never cut a rail shorter than 24" (610 mm). Cutting a rail shorter than 24" (610 mm) will not leave enough room for the required minimum (2) stand feet.**
3. **Use a minimum of (3) stand feet to support any single-rail installation. [This is typically rail-run lengths of ten feet/three meters or less].**
4. **Use a minimum of (2) stand feet to support any folding rail mid-rail section. Do not include in this count, the fixed stand foot (first tread) at the folding joint.**
5. **If you have two rails and if cutting only one would result in a length less than 24" (610 mm), cut from both sections, as follows.**
 - a. **First, cut a minimum of 12" (305 mm) off one section.**
 - b. **Then, calculate the length at which you will cut the second section based on the new length of rail (should be greater than 24"/610 mm).**
6. ***Do not cut the ends you plan to use for joining the two sections in order to preserve the factory fit at the joint.***

5. BE SURE TO WEAR PROTECTIVE GLOVES AND EYEWEAR.

During the cutting process, sparks will fly and the metal rail will become very hot.

6. Before cutting the rail to length, remove the charge strip carrier, then cut the rail to the length required for the installation (nose-to-floor plus 11"/280 mm for a 20"/508 mm seat height, or use the chart in the manual).

Note: ACTUAL SHIPPED RAIL LENGTH FOR A 16' TWO-PIECE RAIL IS 15'-9". Measure twice before cutting!

7. Place flat side of the rail on the saw bed. Draw a line at the desired finished rail length. Carefully align the saw to the line marking the desired finished length of the rail.
8. For a precise and efficient cut, Bruno recommends the use of a cut-off saw*.

*NOTE: The cut-off saw (or other power saw) must be equipped with metal-cutting blade ***suitable for aluminum and steel.***

9. Once the rail is cut, deburr the cut end using a file or other appropriate tool. Soften any sharp edges which might abrade the insulation of the wiring routed to the bumper at the rail end.

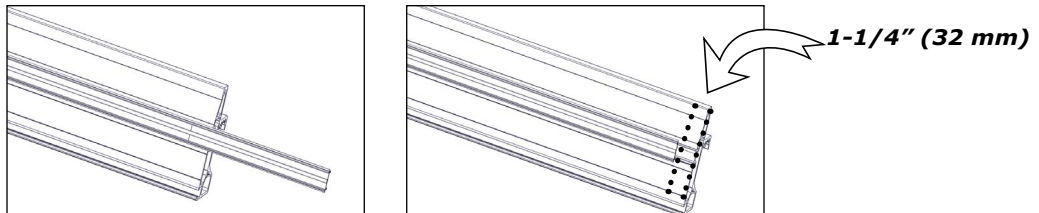
Letters in bold in parentheses refer to the hardware reference sheet (earlier in this manual).

Prepare the lower rail section

NOTE: Instructions for installations involving a ONE-PIECE RAIL appear later in this manual

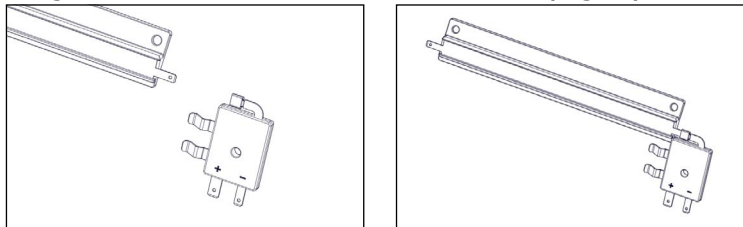
1. Place the lower rail section on a flat surface (worktable, floor, cart).
2. Slide the charge strip carrier (previously removed) into the back side of the rail (Fig 1).

Fig. 1



3. Assemble the charge contact to the slow down contact (Fig. 2).

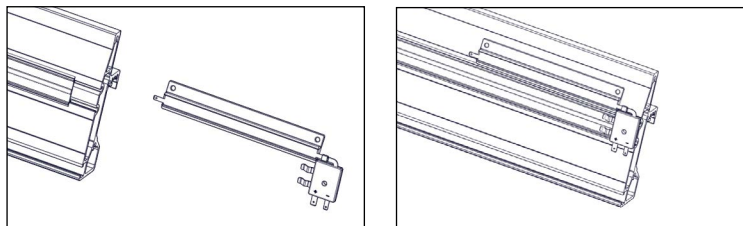
Fig. 2



4. At the bottom of the lower rail section, slide the charge contact assembly (Fig. 3) into the back side of the rail. The assembly will fit snugly against the charge strip carrier.

NOTE: The carrier may be longer than the rail at this point.

Fig. 3



5. Squirt a small amount of Lubriplate® into the holes of the (2) self-threading screws **(B)**. Use these screws to mount the lower end cap (Fig. 4).

NOTE: The threaded hole in the end cap goes toward the front side of the rail.

Fig. 4

**threaded hole
toward front
side of rail**



6. Using (2) **hex head** self-drilling screws **(K)**, secure the slow down contact to the rail (Fig. 5).

NOTE: Confirm that the slow down contact is parallel to the charge strip carrier, and that it is touching the top edge of the carrier.

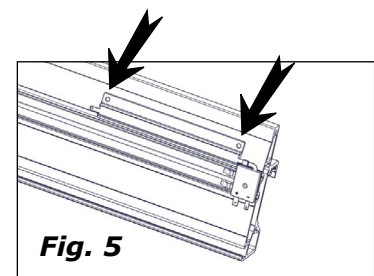


Fig. 5

INSTALLATION



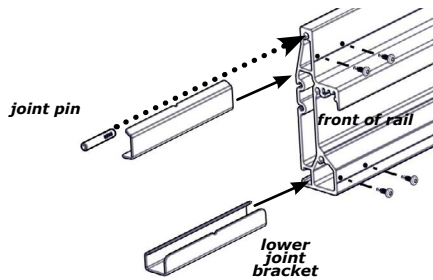
This symbol marks a step specific to a **folding rail**.



For installations involving a folding rail, the lower charge contact is assembled in the factory. You will need to mount the slow down contact to the rail using (2) **hex head** self-drilling screws (**K**). Then insert the slow down contact into the lower charge carrier, keeping it parallel to and touching the top edge of the charge strip carrier.

7. Pound the barbed end of the rail joint pin **halfway** into the lower rail (Fig.6).

Fig. 6



8. Into the upper part of the lower rail section, insert an upper joint bracket halfway* in. Secure with (2) **round head** self-drilling screws (**Q**) (Fig. 6).

* **Both the upper and lower joint brackets have notches to indicate the halfway point.**



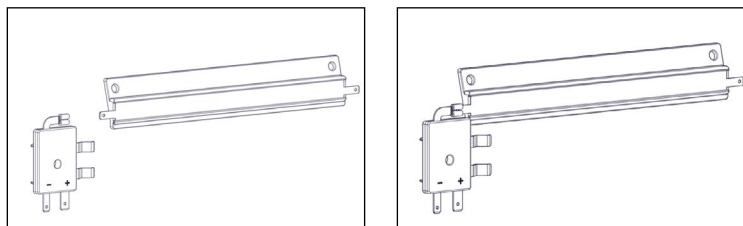
NOTE: The round-head, self-drilling screws are used on the front side of the rail ONLY. Save the hex head screws for the back side.

9. Onto the lower rail section, mount the lower joint bracket **so that half hangs over the joint**. Secure with (2) **round head** self-drilling screws (**Q**) (Fig. 6).
10. Slide gear rack pieces into the lower rail section to a point just short of the joint.

Prepare the upper rail section

1. Place the upper rail section on a flat surface (worktable, floor, cart).
2. Assemble the charge contact to the slow down contact (Fig. 1).

Fig. 1



3. If previously removed, slide the charge strip carrier into the back side of the rail.
4. Slide the charge contact assembly (Fig. 1) into the back side of the rail. The assembly will fit snugly against the charge strip carrier.
5. Using (2) **hex head** self-drilling screws (**K**), secure the slow down contact to the rail. Use Fig. 5 on the previous page as a guide.



NOTE: Confirm that the slow down contact is parallel to the charge strip carrier, and that it is touching the top edge of the carrier.

6. Remove the charge contact assembly from the rail.

If not installing a one-piece rail, SKIP TO "Mount the final limit bracket".

One-piece rail installations

1. Place the one-piece rail on a flat surface (worktable, floor, cart).
2. Trim the charge strip carrier 2-1/2" (63.5 mm) **shorter than the length of the one-piece rail.**
3. Slide the charge strip carrier into the back side of the rail as shown (Fig 1a).

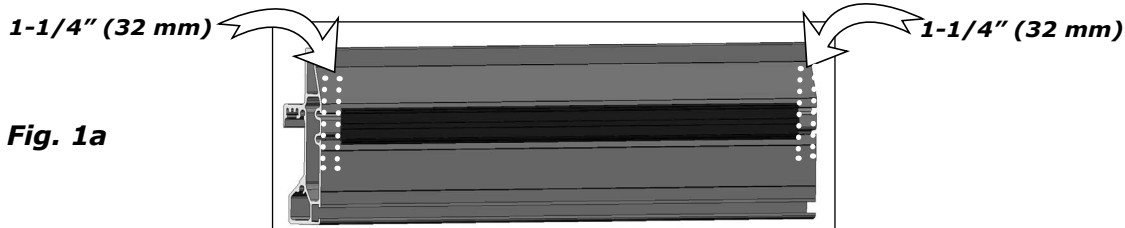
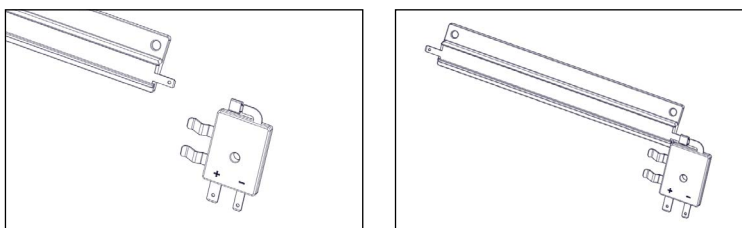


Fig. 1a

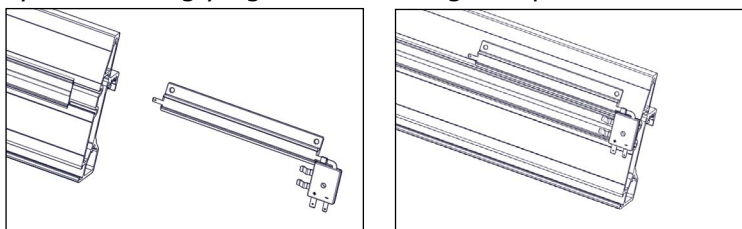
4. Assemble the charge contact to the slow down contact, for use at the lower end of the rail (Fig. 2a).

Fig. 2a



5. At the bottom of the rail, slide the charge contact assembly (Fig. 3a) into the back side of the rail. The assembly will fit snugly against the charge strip carrier.

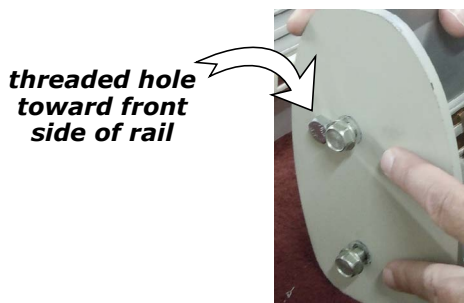
Fig. 3a



6. Squirt a small amount of Lubriplate® into the holes of the (2) self-threading screws **(B)**. Use these screws to mount the lower end cap (Fig. 4a).

NOTE: The threaded hole in the end cap goes toward the front side of the rail.

Fig. 4a



7. Using (2) **hex head** self-drilling screws **(K)**, secure the slow down contact to the rail (Fig. 5a).

NOTE: Confirm that the slow down contact is parallel to the charge strip carrier, and that it is touching the top edge of the carrier.

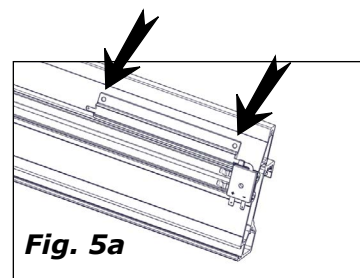


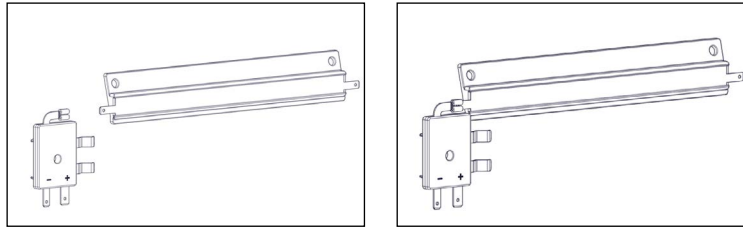
Fig. 5a

INSTALLATION

One-piece rail installations (*continued*)

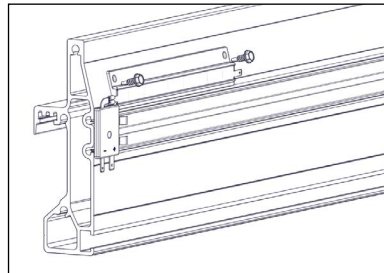
8. Assemble the charge contact to the slow down contact, for use at the upper end of the rail (Fig. 6a).

Fig. 6a



9. At the upper end of the rail, slide the charge contact assembly into the back side of the rail. The assembly will fit snugly against the charge strip carrier (Fig. 7a).

Fig. 7a



10. Using (2) **hex head** self-drilling screws (**K**), secure the slow down contact to the upper end of the rail (Fig. 7a).

NOTE: Confirm that the slow down contact is parallel to the charge strip carrier, and that it is touching the top edge of the carrier.

11. Measure 2-3/8" (60.5 mm) from the top end of the rail.
12. Make a mark at this measurement point, on the top and bottom etched lines of the rail.
13. Partially insert a **hex head** self-drilling screw (**K**) into each spot marked in Step 12.
14. Back out the **hex head** self-drilling screws (**K**) **just enough** (they will remain in the holes) to allow the final limit assembly to be re-mounted later in the installation.
15. Remove the charge contact located on the upper end of the rail.
16. Slide gear rack pieces into the upper end of the rail until (a) the last piece extends beyond the end of the rail, OR (b) the last piece is within 1/2" (13 mm) of the end of the rail.
- **Maximum distance between the last tooth of the uppermost gear rack piece and the end of the rail is 1-1/4 in (32 mm).**
 - If the last piece extends beyond the end of the rail, you must cut that piece to length. Mark the piece even with the end of the rail, slide it out, subtract 1/2 in (13 mm) from the mark, and cut.

Measure twice, cut once!

NOTE: THE LAST GEAR RACK PIECE (or two) SHOULD NOT BE IN THE RAIL AT THIS POINT TO FACILITATE CARRIAGE INSTALLATION!



SEE IMPORTANT GEAR RACK INSTRUCTIONS ON PAGE 22.

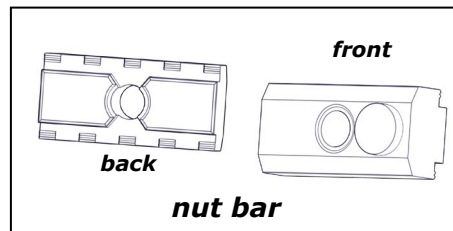
Mount the final limit bracket

1. Measure 2-3/8" (60.5 mm) from the top end of the upper rail.
2. Make a mark at this measurement point, on the top and bottom etched lines of the rail.
3. Partially insert a **hex head** self-drilling screw (**K**) into each spot marked in Step 2.
4. Back out the **hex head** self-drilling screws (**K**) **just enough** (they will remain in the holes) to allow the final limit assembly to be re-mounted later in the installation.

Insert the nut bars

1. *For installations requiring a rail length of 189" (4800 mm) or shorter*, slide (3) nut bars into the rear slot of the lower rail section: 2 bars for the stand feet and 1 bar for the joint (Fig. 1).

Fig. 1



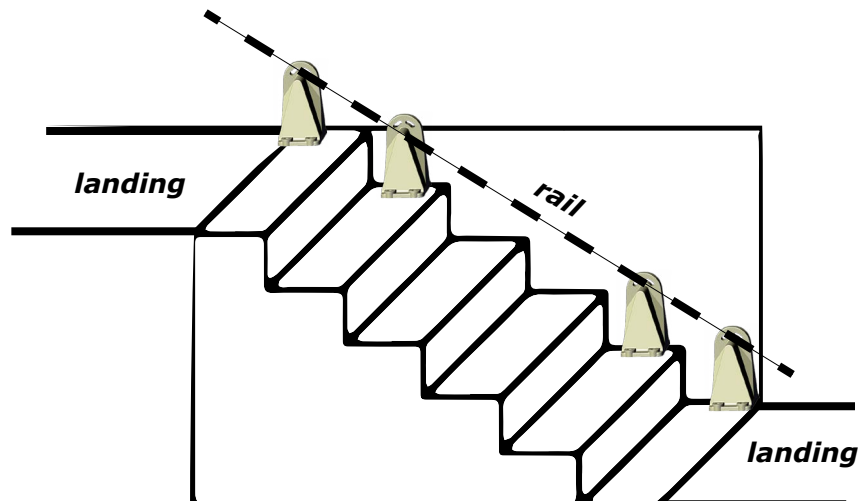
Place the stand feet

! NOTE: Additional stand feet may be required on the upper or lower landing if the rider makes a "hard transfer" [dropping into the seat by 4 or more inches (10 or more cm) from a standing position or while transferring from a mobility devices]. These additional stand feet will prevent movement in the rail during a "hard transfer".*

Place the remaining stand feet as instructed on the following pages.

*Additional stand feet may be required for longer installations.

Stand feet may be purchased from Bruno.



INSTALLATION



This symbol marks a step specific to a **folding rail**.

1. Place (**but do not secure**) the rail stand feet on the stairs in the following pattern (flat side of foot toward the wall) (Fig. 1 and Fig. 2):

Fig. 1



You may wish to place a piece of cardboard, a toolbox or a non-skid rug under the end of the bottom rail to protect the floor and to keep the rail section from sliding off the stairs.

<i>no folding rail</i>	 <i>folding rail</i>
• first tread up from bottom landing	• first tread up from bottom landing using special folding-rail stand foot and hardware (install kit), plus bracket mounted on rail at factory
• first tread down from top landing	
• fill in with no more than (4) blank steps between stand feet	• first tread down from top landing
	• fill in with no more than (4) blank steps between stand feet (minimum of 2 standard stand feet on the mid-rail section)

NOTE: If installing on carpet, place a 1/2" (13 mm) shim between the bottom of the rail and the floor.

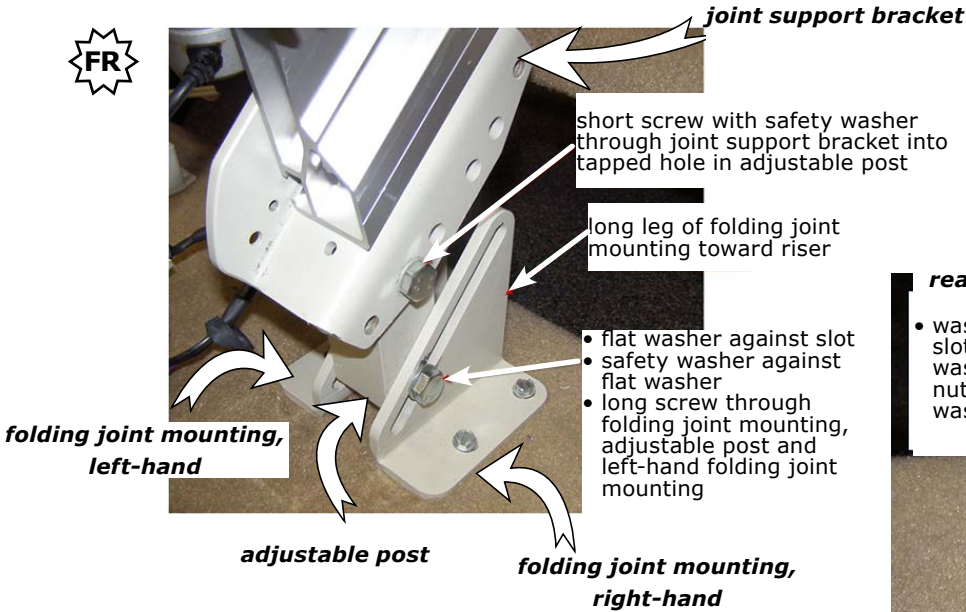


Fig. 2



2. Place the lower rail section on the step noses.
3. Mount (2) stand feet to the lower rail section (Fig.3).
 - Insert an M8-30 bolt, a washer and a safety washer (**A + J + N**) through each stand foot and nut bar.
 - Tap the bolt down in the slot of the stand foot to properly seat the bolt.
 - **Torque the rail/stand feet mounting hardware to 25 ft-lb (34 Nm).**

Fig. 3
rail on stand feet
right hand
(back of rail shown)



The rail must rest at least 2"/51 mm above the step nose of EVERY **uncarpeted** step (2.5"/64 mm carpeted), and extend from the floor at the bottom of the stairs to a point beyond the nose of the top step (see Application Guide Step 4).

4. Place a scratch awl in a back hole of one of the stand feet (lower rail) to prevent the rail from moving while positioning the upper rail.
5. Position the upper rail section onto the lower rail section. You may need to **wiggle the upper section** slightly to make it align properly with the lower section.
6. Slide (2) nut bars into the rear slot of the upper rail section: 1 for each stand foot.
The upper and lower rail sections should now be flush and snug. If the joint is not perfectly snug, adjust the position of the stand feet.
7. Slide the joint nut bar so that it rests evenly across the joint.
8. Insert an M8-14 bolt, lockwasher and flat washer (**O + J + N**) through the joint nut bar and **torque to 25 ft-lb (34 Nm)**. (Fig. 4)
9. Secure the joint **bracket** to the upper rail using (2) self-drilling screws.

NOTE: The screws should be located no more than 2 3/4" (70 mm) from the joint if the bracket is installed correctly).



Fig. 4
rail joint with nut bar, M8-14 bolt, lockwasher and flat washer

10. Insert (2) self-drilling screws (**K**) into the joint **bracket** section resting inside the upper rail.
11. Slide gear rack pieces into the upper rail until (a) the last piece extends beyond the end of the rail, OR (b) the last piece is within 1/2" (13 mm) of the end of the rail.
 - **Maximum distance between the last tooth of the uppermost gear rack piece and the end of the rail is 1-1/4 in (32 mm).**
 - If the last piece extends beyond the end of the rail, you must cut that piece to length, Mark the piece even with the end of the rail, slide it out, subtract 1/2 in (13 mm) and cut.
Measure twice, cut once!

NOTE: THE LAST GEAR RACK PIECE (or two) SHOULD NOT BE IN THE RAIL AT THIS POINT TO FACILITATE CARRIAGE INSTALLATION!

See important gear rack instructions on page 22, then continue with the instructions on page 23.

INSTALLATION

IMPORTANT GEAR RACK INSTRUCTIONS!

Two M6 socket button head cap screws are provided for pressure loading the gear rack.

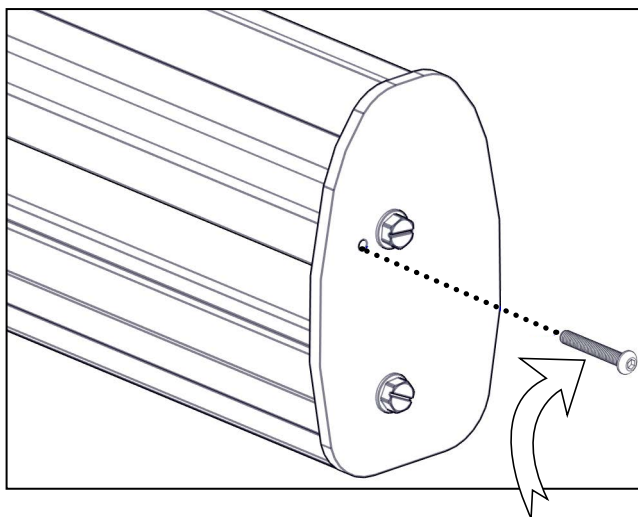
One is 25 mm long and one is 40 mm long. Use the following table as a guide to determine which screw to use. This depends on the cut length of the rail.

Distance from last full rack segment to end of rail	M6 x 25 mm long screw	M6 x 40mm long screw
1/2" (12mm) or less	X	
1/2" (12mm) to 1 1/4" (32mm)		X

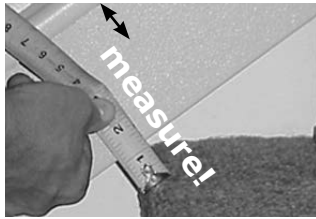
Notes:

- **The distance from the final gear rack piece to the end cap should be no more than 1-1/4" (4 teeth or 32mm).**
- Always butt a factory end on the final cut rack piece to mate with the last full rack segment. This will maintain pitch through the entire travel to ensure proper rack and gear mesh.
- Torque the screw to 40 - 50 in-lbs (4.5 - 5.5 Nm).

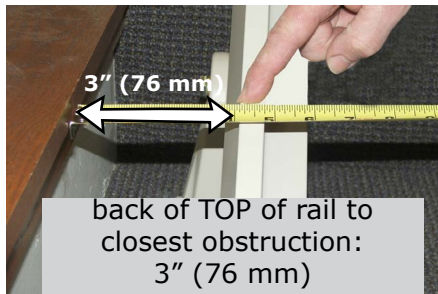
Caution: Do not over tighten the screw. Over tightening the screw will cause the rail joint to open up.



Torque to 40-50 in-lbs (4.5-5.5 Nm).



STEP NOSE TO BOTTOM OF RAIL
(no carpet): 2 in (51 mm) minimum
(carpet): 2.5 in (64 mm) minimum



Bruno ships its stairway elevators with fasteners appropriate for **wooden stair treads only**.

Installation of the stairway elevator on surfaces made of materials other than wood may require different fasteners specific to the material.

If you are unsure as to which fastener applies to the installation, please contact a Bruno representative.

IMPORTANT MEASUREMENT

Take before and after securing each rail stand foot:

distance between back of rail and the closest obstruction
 (example: wall, railing, lip of bannister, windowsill, handrail)
must be at least 3" (76 mm).

For installation on hardwood stairs, Bruno recommends drilling a pilot hole for the stand foot fasteners before inserting the fastener.

Do not secure the remaining stand feet until the carriage is on the rail, and all clearances are verified.

The rail section must NEVER lean forward.

If the rail bows or leans forward, insert shims (available from Bruno) or readjust the feet.

12. Check measurements!

- step nose to bottom of rail:
no carpet: 2 in (51 mm) **minimum**
carpet: 2.5 in (64 mm) **minimum**
folding rail: 2.5 in (64 mm) **minimum**
Measure every step.
- back of TOP of rail to closest obstruction:
 3 in (76 mm) - see left.

Measure at the top, middle and bottom along the length of each rail section.

Stair profiles do vary. It is **critical** to ensure proper clearance between the step nose and the bottom of the rail. Failure to install the rail at the specified minimum distance from the step nose will cause the footrest to contact the steps, causing intermittent operation of the stairway elevator. If necessary, gently slide rail and feet toward or away from the stair riser to adjust to the recommended clearance.

13. Remove the 1/2" (13 mm) shim (if applicable).

14. Secure the top and bottom stand feet to the steps.

- Start by driving one screw into the back of the bottom stand foot.
- Measure the distance from the wall.
- At the top of the rail, push the rail in or pull it out so that it is at the same distance from the wall as the first bottom stand foot.
- Drive one screw **(H)** into the back of the stand foot at the top of the rail.
- Check the clearance between the bottom end cap and the floor.

Too tight?

- **manual folding rail:** latch handle does not release
- **power folding rail:** rail does not close properly

Loosen bolt **(A)** on all stand feet, slide rail up slightly. Retighten **(A)** and recheck latch handle release.

15. Look down the rail. It should be straight. If it is not, readjust the feet.

16. **Do not secure the remainder of the stand feet at this point.**

INSTALLATION

CHARGE STRIPS

1. Put on protective eyewear.



2. If installing a ***folding rail***, insert a fin fastener **(R)** into the mid-rail charge strip carrier, at the joint. Otherwise, skip to Step 3.

3. Holding one of the charge strip coils to prevent it from uncoiling, carefully undo the tape securing the coil.

4. Slide one end of the charge contact strip into the charge contact strip carrier until it touches the charge contact.

5. Cut off the excess charge contact strip, flush with the carrier.

6. Repeat Steps 3, 4, and 5 for the second charge contact strip coil.

CARRIAGE and FOOTREST

NOTES: • When handling the carriage, take extra care to avoid damaging the final limit near the battery housing!

• Do NOT turn on circuit breaker until the carriage is on the rail!

1. If not previously done, remove the last gear section from the upper rail.
2. Check that the **circuit breaker is TURNED OFF**.

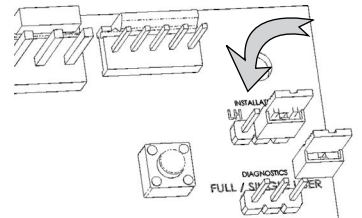
➡ **NOTE: If installing a left-hand unit, skip to Step 4.**

3. NOTE: The SRE-3000 is shipped from the factory ready for a left-hand installation. RIGHT-HAND INSTALLATIONS WILL REQUIRE THE FOLLOWING MODIFICATIONS to the carriage **BEFORE the carriage is slid onto the rail.**

- a. Remove the top, center carriage cover. No screws! Pop it out. (Fig. 1)
 - b. On the circuit board, move the LH/RH jumper to the RH position (Fig. 2).
 - c. Disconnect the shipping jumper (Fig. 3).
 - d. Using a 6mm Allen wrench, remove the (2) button head screws securing the front carriage cover (Fig. 4).
 - e. Pull the front cover away from the carriage. If desired, disconnect one of the sensor connectors to allow the carriage to hang to one side (to provide full access to the wiring harness). **Be sure to note the orientation of the sensor connector!** (Fig. 6)
 - f. Pull the wiring harness from behind the bracket and re-route as shown (Figs. 7 and 8).
 - g. Reconnect the sensor lead (Fig. 6).
 - h. Route the wiring harness through the right-hand hole in the carriage front cover (Fig. 9).
 - i. Remount and secure the front carriage cover.
- NOTE: The (2) button head screws will both be on the "upstairs" side of the carriage.**
- j. Snap the center carriage cover back in place. No screws!
 - k. Reconnect the shipping jumper removed in Step 3c. This will enable you to run the unit onto the rail
 - k. Place plastic plug in the open hole. Hand change is complete (Fig. 10).



Fig. 1



**right-hand installations:
move jumper from "LH"
to "RH"**



Fig. 3



Fig. 4

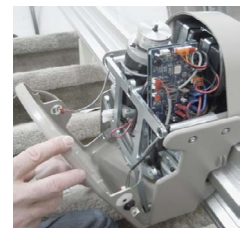


Fig. 5



Fig. 6

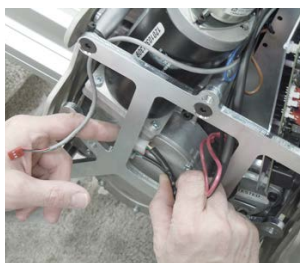


Fig. 7

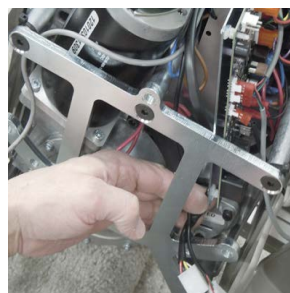


Fig. 8

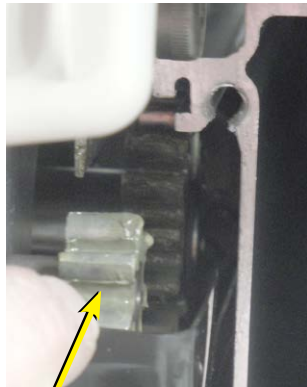


Fig. 9



Fig. 10

INSTALLATION



rotate overspeed gear over a few teeth if difficult to power carriage onto gear rack.



mounting footrest to carriage:
(3) M10 + (3) safety washers



level



safety
socket head screw

4. SLOWLY slide the carriage onto the UPPER rail section until the carriage spur gear rests against the gear rack.

*NOTE: In right-hand installations, the overspeed gear will contact the gear rack before the spur gear. Lower carriage **slowly** to avoid tripping the overspeed.*

5. Remove the serial number decal from its backing (attached with the zip tie to the circuit breaker) and affix the decal to the window in the data plate (bottom of seat).
6. Cut the zip tie (**do NOT lose** the **carriage** key attached to the zip tie).
7. Insert the **carriage** key.
8. Turn the **carriage** key to the ON position.
9. Turn the circuit breaker ON.
10. Using the remote, power the carriage approximately 12 in (30 cm) onto the gear rack.

*NOTES: In left-hand installations, power the carriage **slowly**, allowing the overspeed gear to align with the gear rack.*

While jogging the carriage on the rail with the remote, if the overspeed gear "clunks" against the gear rack, and the carriage stops, manually ease the carriage toward the end of the rail, (just far enough to provide access to the overspeed gear. With your finger, turn the overspeed gear a few teeth. Try again to power the carriage onto the gear rack using the remote.

11. ***Before mounting the footrest***, turn the circuit breaker OFF.
12. Remove the downside M10 button head screw securing the front cover during shipping. ***Failure to remove this screw will prevent proper footrest installation.***
13. Insert the this button head screw in the open hole on the upstairs side of the front cover, next to its mate.
14. Mount the footrest to the carriage inserting (3) M10 bolts (**D**) and (3) safety washers (**G**): (1 through the top of the plate and 2 through the safety plate). See left.
DO NOT TIGHTEN AT THIS POINT!
15. Verify that the footrest is level:
 - Lower the footrest.
 - Place a level on the footrest pan.
16. Fully tighten the (3) footrest bolts inserted in Step 9.
TORQUE TO 50 FT-LB (68 Nm).
17. Insert and tighten the safety socket head screw (**L**) (shear bolt).

WARNING

PINCH POINT!

Make sure the areas above and below the folding rail are clear before operating the folding rail.

Keep children and pets at a safe distance.

Failure to observe this warning could result in injury or damage to equipment.



If the stairway elevator has a **power folding rail** you need to mount and connect the control box for it to function.

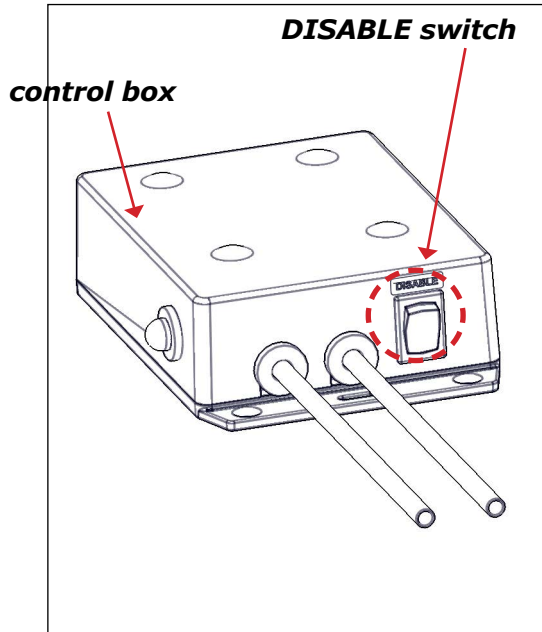
- Mount the box near the actuator under the rail on the stair case.

Because the location of the box along the rail may vary based on the application (variation in rail angle, riser length, etc.), you will first need to determine the best location for the box. The final location will be restricted by the amount of wire available between the mid-park stop and the control box and between the actuator and the control box so lay the box and wires out carefully before final mounting.

NOTES:

Manual Folding Rail: When folding the rail UP, the carriage **MUST** be at the **mid-park** position!

Power Folding Rail: Will **only** work when the carriage is at the mid-park position. **Damage to the carriage WILL occur if the** carriage is below the mid-park position when the rail is folded up.



Disable switch

The control box includes a disable switch. Pressing this switch toward DISABLE prevents the rail from folding up. You would use this function if you wished to keep the rail folded down for an extended period of time.

Be sure to press the switch AWAY from DISABLE to allow the rail to fold and unfold correctly under power!

NOTE

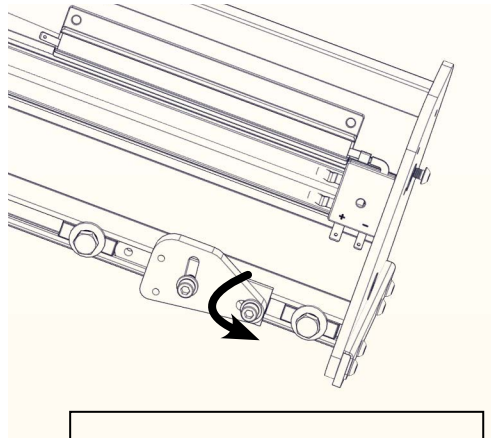
If, during operation, the POWER folding rail stops then slightly reverses direction, and there are NO OBSTRUCTIONS, call Bruno Technical Service.

FOLDING RAIL INSTALLATION

CONNECTING, SETTING AND VERIFYING OPERATION OF POWER FOLDING RAIL

NOTES:

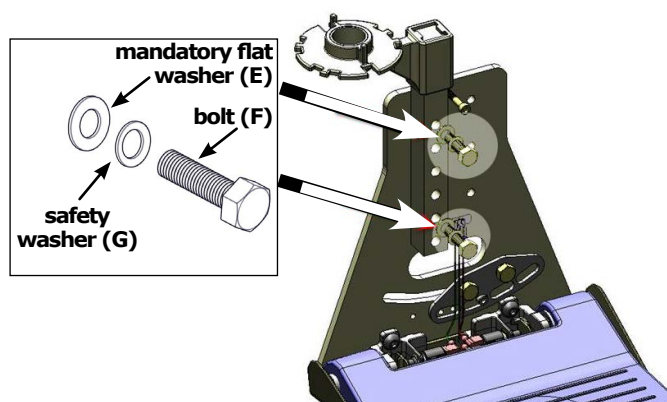
- The rail control assembly auxiliary control box is powered by the carriage batteries.
- The third (upper) carriage contact strip provides the communication connection to the rail control assembly at the mid rail contact strip (factory mounted).
- The rail control assembly powers the actuator that lifts and lowers the folding section of the rail.
- The actuator assembly (power folding rail) is factory set to provide maximum clearance at a 39-degree inclination.
 - ◇ If you are installing at a shallower angle you may need to adjust this setting.
Refer to the graphic below.
 - « First adjust the double-slotted rod end mounting plate so that the rod end is closer to the floor when in the lowered position.
 - « Next, adjust the over travel relief hex cap screws and nuts in the rail T-slot to allow the rail to fully close without binding the actuator.
 - « Operate the rail up and down, alternating between these two adjustments until you achieve optimum performance which is defined by having (a) no over- current "bounce" back in the fully raised or lowered position, (b) proper clearance of the folded rail when fully raised, and (c) smooth actuator operation.
- There is a continuous beep whenever the folding rail is in motion. This is to warn people nearby of rail operation. Also, the yellow control box light flashes.



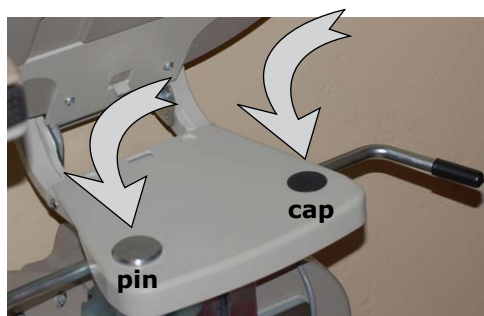
**ADJUSTABLE ROD
MOUNTING PLATE
shown in highest rail
fold-up position**

***Pivot down to adjust for
lower-incline angles.***

SEAT



seat post orientation:
toward top of rail
(right-hand installation shown)



pin and cap in seat base
(right-hand installation shown)

! NOTE: Finger tighten the hardware 3 turns (Step 1), then torque as specified to avoid cross threading!

1. Mount and fully tighten the seat post using (2) M10 bolts **(F)**, (2) safety lock washers **(G)** and (2) MANDATORY flat washers **(E)**. **TORQUE TO 50 FT-LB (68 Nm).**

NOTE: Offset toward the top of the rail.

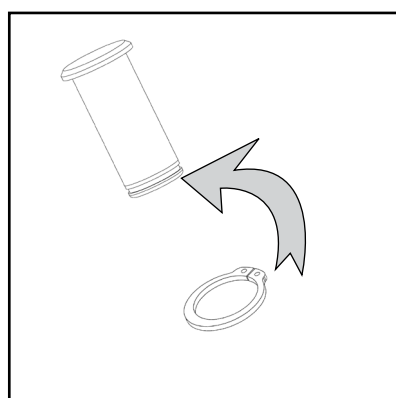
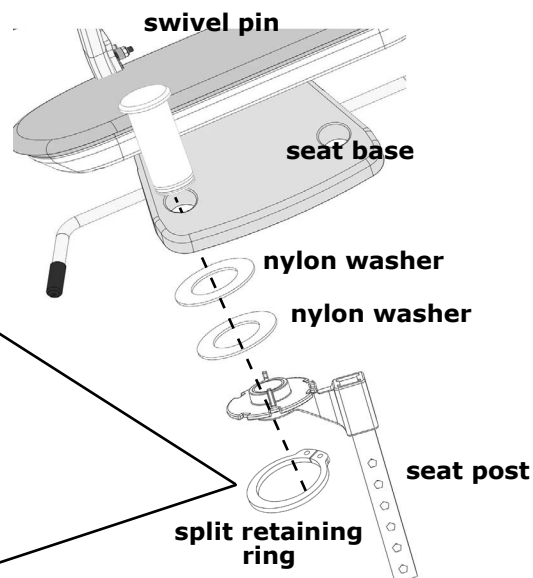
2. Insert the seat swivel pin in the seat base. Use the "upstairs side" hole.
3. Slide (2) nylon washers onto the seat swivel pin so they will be positioned between the seat base and seat post.

NOTE: The washers are shipped on the seat post, requiring disassembly before performing Step 3.

4. With the seat facing 45° off center to the upstairs side, insert the seat swivel pin into the seat post to mount the seat.

NOTE: If necessary, use a dead blow hammer to tap the pin into place.

5. Using the seat swivel lever, pivot the seat to its locked position. The seat should drop into place.
6. Using heavy-duty snap ring pliers, install the retaining ring **(M)** onto the bottom of the seat swivel pin.



retaining (snap) ring
mounting to bottom of seat swivel pin

INSTALLATION

FINISHING THE RAIL and CONNECTING THE POWER

1. If not already done, disconnect the installation jumper from the harness at the front of the carriage.
2. Connect the (2) wires coming from the carriage wiring harness to the corresponding seat and footrest harnesses.
3. Secure the leads as shown below and to the left.

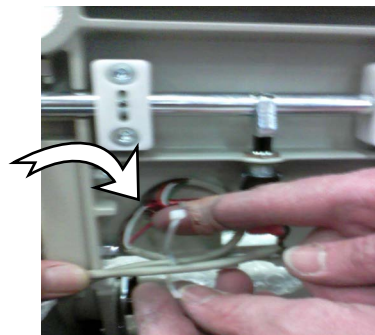
NOTE THE DIFFERENCE BETWEEN LEFT- AND RIGHT-HAND UNITS!



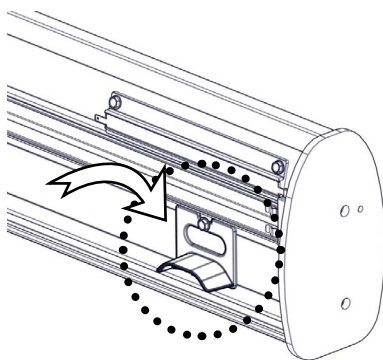
seat wiring: as shipped



seat wiring: left-hand unit



seat wiring: right-hand unit



final limit.

4. Mount the front footrest shroud and secure by inserting and tightening the M6 socket head screw **(I)** at the top of the shroud.
5. Mount the final limit bracket at the top of the rail and secure using the existing screws.
6. Mount the charge bracket and secure using the screws already in place.
7. Connect the wires from the charger to the charger contact assembly (see below).
8. Mount a charge strip carrier stop to the top of the charge strip carrier.

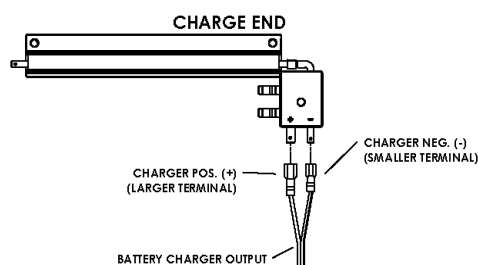
NOTE: REFER TO SPECIAL GEAR RACK INSTRUCTIONS ON PAGE 22.



For folding rail installations, the charger *MUST* be at the top of the stairs!

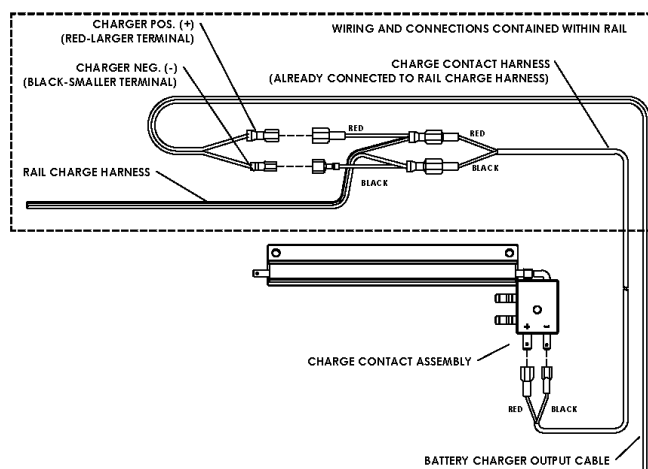
standard rail

- CONFIGURATION SHOWN:
- 1) LEFT-HAND INSTALLATION WITH CHARGER AT BOTTOM.
 - 2) RIGHT-HAND INSTALLATION WITH CHARGER AT TOP.



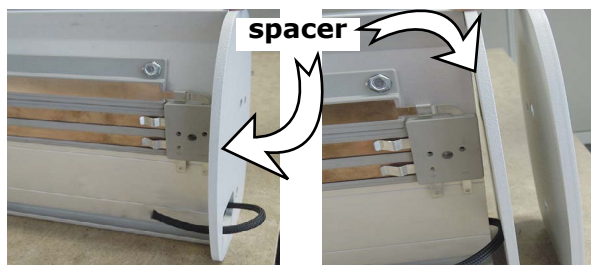
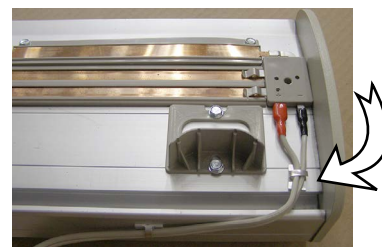
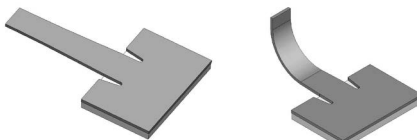
folding rail

- FOLDING RAIL CONFIGURATION SHOWN:
- 1) RIGHT-HAND INSTALLATION (CHARGER ALWAYS AT TOP)



FINISHING THE RAIL and CONNECTING THE POWER (continued)

9. Attach the adhesive wire clip to the rail and fold the tab over the wires as shown to the right.



10. Insert the last gear rack section into the upper rail.

NOTE: Use fish tape to pull the black charge cable up through the upper rail. The cable wires will fit between the spacer and the end of the rail (see left).

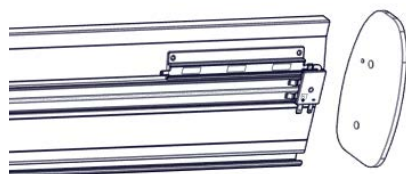


If installing a folding rail, mount the provided spacer (in kit SRE-K-3019) between the top end cap and the end of the rail to prevent damage to components.



Create loop in cable. Insert through hole in spacer to "sandwich" cable between spacer and end cap. Hole in spacer provides relief for charge wire. Carefully tighten end cap hardware with cable loop sandwiched in here.
Don't pinch the cable!

11. Mount the top end cap using (2) self-threading screws **(B)**.



end cap - upper rail

12. Insert a jack screw **(C)** into the top end cap.
Tighten to maximum 50 in-lbs (5.5 Nm).

13. Plug the charger into a live, properly-grounded 120V AC outlet.

14. Turn the circuit breaker ON.

15. Power the unit up and down the rail to verify all clearances (step nose, closest obstruction). If they are correct, secure the remaining stand feet to the stairs. **Always secure the back screws (A) of the stand feet first! Be sure the bottom of the rail is fully supported by the stand foot (no air gaps). Torque (A) to 225 lb-in (25 Nm).**

FINISHING THE RAIL and CONNECTING THE POWER (continued)

 16. ***Reset the folding rail joint.***

- a. Make sure you have maintained the factory-set gear rack mesh at the folding joint.
- b. Loosen the jack screw located on the lower end cap. This should be done after the top gear rack jack bolt has been tightened.
- c. Loosen the M5 button head screw securing the short folding rail rack. The screw is located on the front flange of the short folding section.
- d. Using tool FIX-00525 (available from Bruno) or a piece of spare gear rack, be sure to clamp the racks of both the mid-rail and short rail - across the folding joint. This will ensure that you have maintained pitch for safe travel of the drive gear and overspeed gear across the joint.
- e. Tighten the M5 button head screw to secure the top piece of the short folding rail.
- f. Drive the lower end cap jack screw up. Tighten to 5 ft-lbs (6.8 Nm).
- g. Remove clamp FIX-00525.

NEVER remove the mid-rail screw from the rail! The carriage and gear rack segments will fall.



1. Run the elevator up and down the rail several times.
2. Apply a thin layer of white lithium grease **on the gear rack ONLY**.
Repeat often if the unit is used very frequently or is used in a harsh environment.
3. Regular cleaning will keep the rail and rack free of dust and dirt.

FINISHING THE INSTALLATION

Reminder: Direction of travel of the seat/carriage corresponds to the side of the rocker switch depressed.

A slight delay will occur between the time the rocker switch is depressed and the start of carriage movement. This is normal and is a function of the *soft start* feature of the controller. **The unit should travel noticeably faster going up than down.**

1. Before securing all hardware, with the seat in the central riding position, use the rocker switch to run carriage/seat assembly completely down and up the rail.
2. Check the seat-to-wall clearance.

A clearance of 1/2" to 1" (13-25 mm) is acceptable.

3. Repeat the run with the seat in the folded position. If necessary, adjust the rail placement by sliding it closer to, or further from the wall.
4. Make a total of 5 or 6 trial runs to be sure all components function correctly, and that proper seat-to-wall clearance is maintained over the entire length of travel.
5. If clearances are correct, fully tighten all screws/bolts.

Stand feet: ***Always secure the back screws of the stand feet first! Be sure the bottom edge of the rail is fully supported by the stand foot (no air gaps). Torque to 225 lb-in (25 Nm).***

6. Run the carriage/seat assembly up and down the rail to recheck the seat-to-wall clearance, and to verify correct operation of all elevator components.
7. Verify proper operation of the power supply, call/send transmitters, on/off switch, footrest, safety switches, and carriage limit switches.
8. Adjust the seat height, if necessary, to maximize the customer's comfort (see ADJUSTMENTS).
9. Inform the customer of the location of the Operator's Manual. Encourage him/her to become familiar with the contents of the Operator's Manual.
10. ***Train the customer to use the stairway elevator correctly and safely.***

Remind him/her to always buckle the positioning belt when on board the stairway elevator.

Be sure to have him/her operate the unit while you are there to answer questions and address concerns.

Manual Folding Rail: When folding the rail UP, the carriage ***MUST*** be at a position that allows the rail to fully fold up!

Power Folding Rail: Will ***only*** work when the carriage is at the mid-park position. **Damage to the carriage WILL occur if the** carriage is below the mid-park position when the rail is folded up.

CALL/SEND TRANSMITTERS

The SRE-3000 hand-held transmitter may experience certain types of interference caused by portable and mobile radio frequency (RF) communications equipment. However, the SRE-3000 uses infrared (IR) communications to minimize the possibility of interference.

Also, receivers are mounted on both sides of the SRE-3000 carriage to minimize interference.

Should interference occur, the unit will stop. This feature has been integrated into the SRE-3000 to ensure your safety.

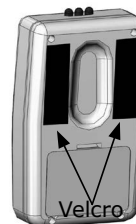
The direct line between the transmitter to either of the (2) transmitters should be clear of obstacles for optimal operation. It may be necessary to reposition the transmitters so that they are aimed at the carriage.

To reduce the possibility of interference:

- While riding in the seat, ALWAYS operate the elevator using the rocker switch on the armrest.
- Operating the SRE-3000 with a transmitter while riding in the seat can lead to signal interference.
- **DO NOT** mount the transmitters behind an obstacle such as a rail post or around a corner.
- **DO NOT** allow direct sunlight to shine on the receivers (blinding the receivers on the carriage).
- DO replace transmitter batteries regularly.
- Depleted or nearly-depleted batteries alter the effective range of the transmitter.
- DO keep the transmitter and receiver lens free of dirt and debris.
- Use a non-abrasive cleaner suitable for glass or acrylic surfaces.
- Do not use polishes or cleaning products containing wax. These products will leave a film on the lens that will reduce the signal transmission range.

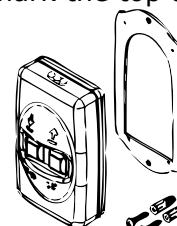
Mounting STANDARD transmitter:

1. Leaving the hook and loop halves of the (2) Velcro® strips (provided) together, remove the backing from the **hook** half of each strip.
2. Mount the (2) strips to the back of the transmitter as shown.
3. Remove the backing from the **loop** half of each strip.
4. Mount the transmitter to the desired surface (eg. wall, railing) by gently pressing against the transmitter.



Mounting with OPTIONAL kit SRE-K-1580:

1. Mount the bracket to the back of the transmitter using the (4) screws provided.
2. Position the bracket/transmitter unit in the mounting location on the wall and mark the top and bottom bracket holes.
3. Drill a pilot hole slightly smaller than the anchors provided.
4. Gently pound the anchors into the wall with a rubber mallet.
5. Position the bracket/transmitter unit on the wall so that the top/bottom bracket holes align with the anchors.
6. Secure the bracket/transmitter to the wall using the screws provided.

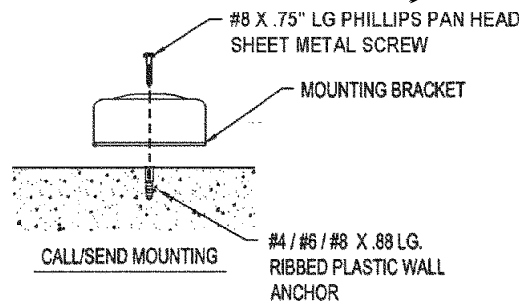


Testing the call/send transmitters

1. Using the rocker switch on the seat armrest, run the unit up and down the rail. **ARMS MUST BE DOWN!**

NOTE: The unit should travel noticeably faster going up than down.

2. Check for smooth operation and travel.
3. Now, using one of the remote call/send transmitters, run the unit up and down the rail.
4. Repeat Step 3 with the other transmitter.
5. Check for smooth operation and travel.



CIRCUIT BOARD DIAGNOSTICS

The circuit board provided on the SRE-3000 is equipped with (4) diagnostic modes that continuously monitor the unit's operation. This choice of operational modes allows the SRE-3000 to respond to the requirements of a wide variety of installations.

NOTE : The SRE-3000 is shipped in the MULTI-USER/DIAGNOSTIC MODE.

MULTI-USER/DIAGNOSTIC MODE

Provides full range of Audio diagnostic notices:

- ***Circuit Board Power Up:** Chirp
- ***Safety Device Activated:** Chirp
- ***Seat Safety Disengaged:** Chirp repeats every 3 seconds until seat safety switch is re-engaged.
- ***Parked and Charger Not Detected:** 5 Beeps (3 short and 2 long)
Repeats every 4 minutes until seat safety switch is disengaged, the battery voltage increases, or the switch is pressed.
- ***Battery Voltage Critical:** 5 Beeps (2 short and 3 long)
Repeats once a minute until the voltage exceeds 16V or the switch is pressed.
- ***Switch Active During Power Up:** 2 Beeps / Pause / 5 Beeps (long beeps indicate which switches are active)
Repeats beeps every 5 seconds until all switches are off.
- ***More Than One Switch Active:** 2 Beeps / Pause/ 5 Beeps (long beeps indicate which switches are active)
Repeats every 30 seconds until all switches are off.
- ***Transmitter ID Memory Full:** 3 Beeps (1 short and 2 long)

SINGLE-USER MODE

Provides the same audio diagnostic notices as the Multi-User/Diagnostic Mode, except for the Seat Safety Disengaged notice.

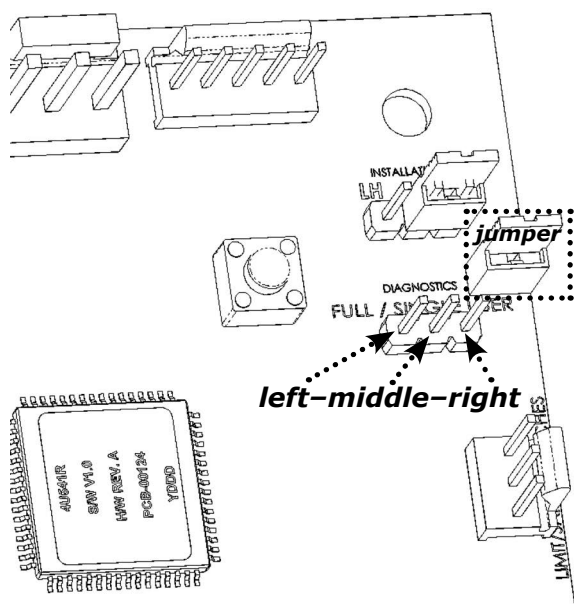
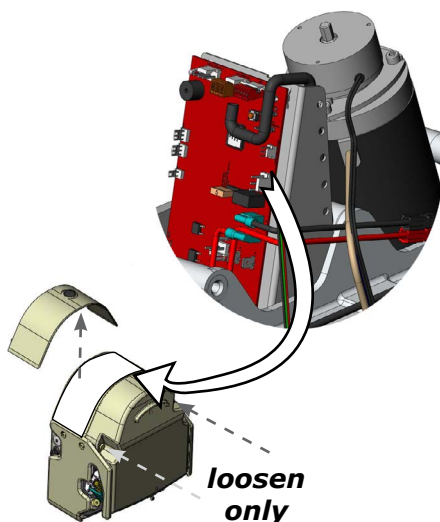
CIRCUIT BOARD DIAGNOSTICS

**NOTICE:**

Before touching anything inside the carriage assembly, ground yourself by touching an unpainted metal surface on the unit such as an exposed bolt, or one of the mounting screws on the electrical panel. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.

AUDIO REFERENCE

Chirp	0.25 second
Short Beep	0.50 second
Long Beep	1.50 seconds
Pause	1.00 second

**Changing the PCB Diagnostic Mode**

1. Turn the circuit breaker on the carriage to 'OFF'.
2. **Loosen** but do not remove the top carriage cover screws.
3. Remove the top carriage cover (see left).
4. The unit is shipped in the Multi-User Diagnostic Mode. Changes are made by pulling off the jumper (see bottom left) and pushing it onto the (2) right-hand pins.

DIAGNOSTIC MODE	pins under jumper
Multi-User	left and middle
Single-User	middle and right

LEARNING THE REMOTE TRANSMITTER**(not necessary when installing unit for the first time)**

The operating channel of the two (2) transmitters included with the SRE-3000 is pre-set at the Bruno factory.

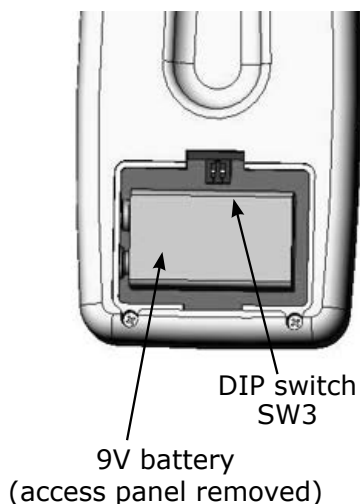
Reasons for relearning transmitters:

- there are multiple units in the same location;
- you have to replace transmitters.

To reset the operating channel of the infrared transmitters:

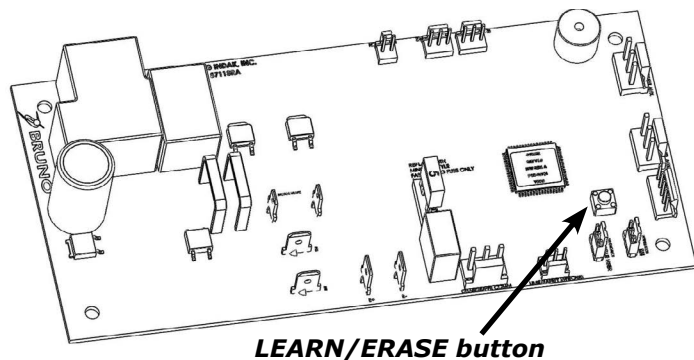
1. remove the transmitter(s) battery access panel;
2. locate the DIP switch labeled 'SW3' (see left);
3. change BOTH transmitter DIP switch configurations to one of the four (4) possible options.

- **1 up, 2 down (default factory setting)**
- **1 up, 2 up**
- **1 down, 2 up**
- **1 down, 2 down**



To relearn a transmitter:

1. Turn the circuit breaker OFF.



2. Remove the TOP MID COVER to expose the control PCB.
3. Locate the LEARN/ERASE button on the PCB (see left).
4. Turn the circuit breaker ON, and wait for the 'power-up' beep.

5. ***Clear the memory:***

- Hold down the LEARN/ERASE button until the LED on the control PCB goes out (approximately 12 seconds).

6. Press and hold the LEARN/ERASE button (LED on control PCB is on). As you continue to press the LEARN/ERASE button, press either of the call/send transmitter buttons until the LEARN/ERASE LED goes out (approximately 2-5 sec.).
7. Release both buttons (LEARN/ERASE and transmitter).

The remote is now "learned".

8. Make sure all transmitters are set to the same DIP switch configuration. It is only necessary to learn one transmitter if all transmitter DIP switches are set the same.

9. ***Test transmitter operation:***

- Depress either of the transmitter buttons.
- If the carriage moves, the new configuration has been accepted and the transmitter relearned.
- If the carriage does not move, repeat Steps 1 through 8.

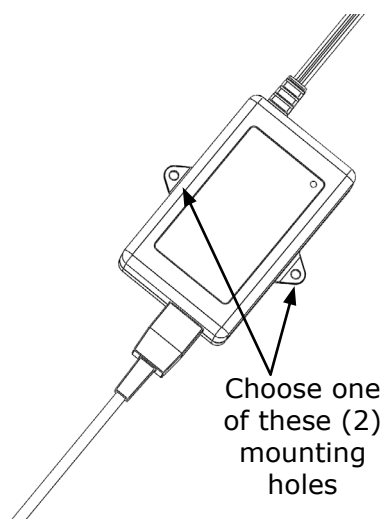
10. Remount the transmitter back (remount on wall if applicable).

11. Turn the circuit breaker OFF.

12. Remount and secure the carriage cover.

13. Turn the circuit breaker ON, and verify operation of all functions.

MOUNTING THE BATTERY CHARGER



1. Position the charger in a suitable permanent location **where it will not create a tripping hazard.**
2. Secure the charger in the chosen location (Step 1) by inserting (2) screws (provided) through the mounting holes in the charger base.

NOTE: *If the batteries become discharged, the carriage will move more slowly until the voltage drops to a point where the controller will shut off.*

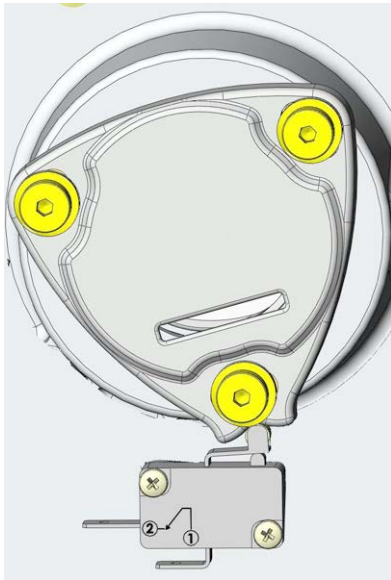
In this event, pause for a moment, then run the carriage "down" until it engages the charge contacts.

Partially charged batteries will run the carriage "down", but not "up".

Confirm that the charger is plugged into a "live" outlet and wait for the batteries to recharge.

BATTERY CHARGER LED'S

LED COLOR/FUNCTION	STATUS/PROBLEM	REMEDY
red	AC power on	normal condition when connected to a live outlet
red (flashing)	defective batteries in unit	test batteries for damage or sulfation (load test)
yellow	charging	status OK
green	battery fully charged/float mode charging	status OK
green (flashing)	reverse polarity connection to unit	check wiring to rail charge strips for correct polarity connections



The overspeed is a safety device designed to prevent operation of the stairway elevator in the unlikely event that the descending travel speed becomes excessive.

When the overspeed switch is tripped, the wheel will not be in the center of the notch (valley).

You must reset the overspeed switch to allow the unit to operate.

To reset the switch:

1. Remove the access cap (see left).
2. Using a 1/4" socket tool or the manual back up tool available in kit SRV-3000-002 (available from Bruno), turn the motor shaft extension to move the carriage in the up direction

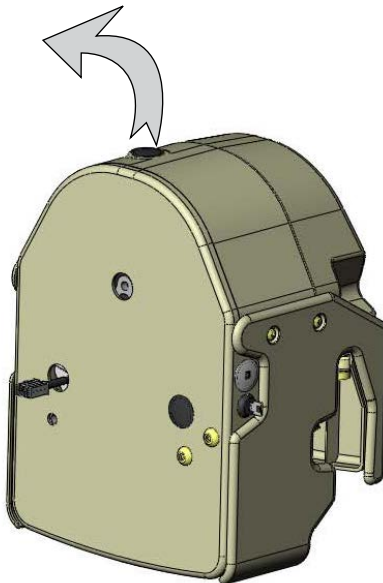
clockwise for a left-hand installation and counterclockwise for a right-hand installation.

The overspeed switch should automatically reset.

3. Check for damage to the drive system.
4. If the drive system is not damaged, use the rocker switch to drive the carriage off the rail for a more complete inspection.

If the switch does not reset:

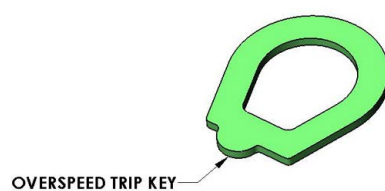
1. Remove the (2) front covers.
2. Remove the seat.
3. Remove the footrest.
4. Remove the drive cover.
5. Turn the cam ring so that the switch roller is centered in the cam valley.
6. Remove and inspect the drive system and carriage.
7. If possible, repair as needed and reassemble. Otherwise, return for factory service.



REGULATORY TESTING : OVERSPEED

TESTING INSTRUCTIONS FOR REGULATORY INSPECTION

overspeed key: available in kit SRV-3000-002 (available from Bruno)



1. Turn off the circuit breaker.
2. Remove the seat post cover and the footrest cover.
3. Remove the seat assembly.
4. Remove the footrest assembly.
5. Remove the drive cover from the carriage.

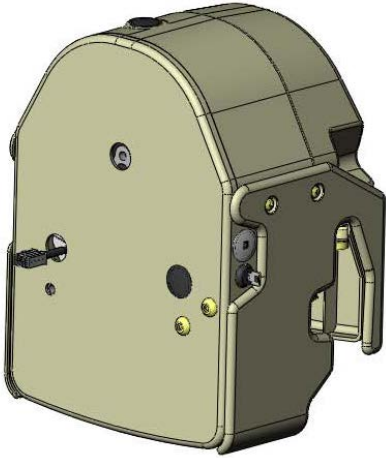
IMPORTANT NOTE: TO TEST THE UNIT, THE COVERS MUST BE OFF TO PROVIDE ACCESS TO THE OVERSPEED ASSEMBLY.

6. Re-install the footrest assembly.
7. Re-install the seat assembly.

TESTING THE OVERSPEED

1. Place the required weights on the seat and footrest.
2. Secure the weights by strapping them down.
3. Turn on the circuit breaker.
4. Using the call/send remote, run the SRE-3000 in the DOWN direction.
5. Insert the overspeed trip key into the flange cover slot in the correct orientation and push with a small amount of force.

TESTING INSTRUCTIONS FOR REGULATORY INSPECTION



RESETTING THE OVERSPEED

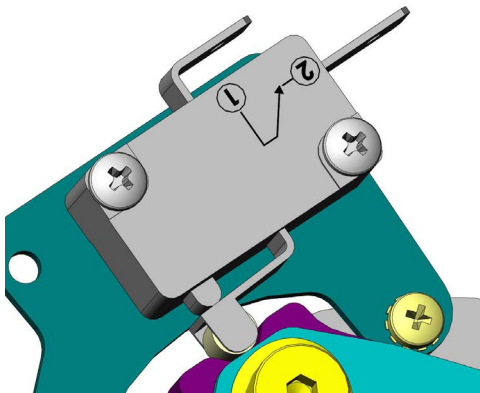
1. Turn off the circuit breaker.
2. Remove the weight(s).
3. Using a 5/16 socket tool, turn the gear motor **clockwise** to move the carriage UP. Continue turning until the unit moves freely.

The overspeed switch should automatically reset.

4. Check for damage to the drive system.
5. If the drive system is not damaged, use the rocker switch to drive the carriage off the rail for a more complete inspection.

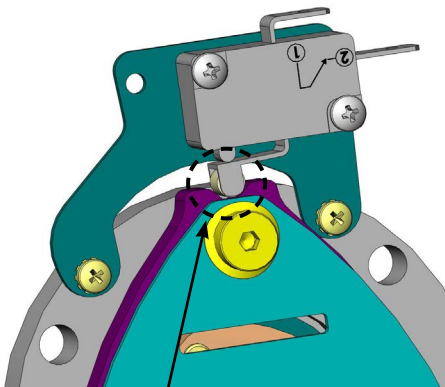
If the switch does not reset:

1. Turn the cam ring so that the switch roller is centered in the cam valley.
2. Remove and inspect the drive system and carriage.
3. If possible, repair as needed and reassemble. Otherwise, return for factory service.



AFTER TESTING

1. Remove the seat assembly.
2. Remove the footrest assembly.
3. Install the drive cover.
4. Install the footrest assembly.
5. Install the seat assembly.
6. Install the footrest and seat post covers.



Align switch plunger into notch of stop flange.

MAINTENANCE

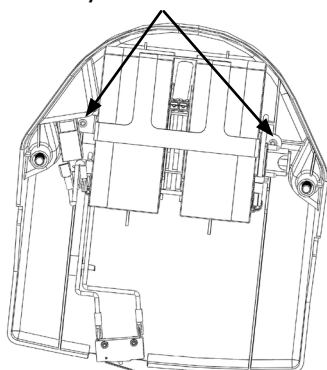
The SRE-3000 is designed to provide many years of reliable service under normal use with minimal required maintenance.

YEARLY MAINTENANCE OPERATIONS

- Clean rails, racks and wheels. Regrease.
- Check rail wear.
- Clean charging contacts (both carriage and rail) with lightweight Scotch Brite®.
- Check battery voltage (load test).
- Check safety switches (overspeed operation, limit switches, seat rotation operation switch).
- Check armrest switch.
- Check barrier arm switches.
- Check that the charging system is free of corrosion and is not showing unusual wear.
- Check that batteries are charging correctly and holding charge.
- Check battery charger output:
 - Load test using remote controls: check voltage while carriage is traveling up.
 - Test with carriage against contacts.
 - Test with carriage away from contacts.
 - Check contacts and lights.
- Check speed and ride quality.
- Check seat belt for wear and proper operation.
- Examine exposed wiring. Are there any cuts or abrasions?
- Verify operation of seat swivel mechanism. Does it move easily and lock in place correctly?
- Check that all critical hardware is tightened to proper torque value(s).
- Replace the 9V call/send transmitter batteries.

BATTERY REMOVAL / REINSERTION

battery bracket screws



**RECYCLE
BATTERIES IN
ACCORDANCE WITH
REGULATIONS IN YOUR AREA.**



Should battery removal be required, follow the detailed instructions below to avoid equipment damage and/or injury.

1. Turn the circuit breaker OFF.
2. Remove the (2) bolts on the back of the battery housing.
3. Disconnect the harness from the battery housing to the carriage.
 - 3a. Disconnect the black (-) battery lead from the **right-hand** battery.
 - 3b. Disconnect the red battery wire from the **left-hand** battery.
4. Remove (2) screws from the battery bracket.

NOTE: Use of a magnetic screwdriver facilitates screw removal.

5. Slide the batteries out.

NOTE ORIENTATION OF BATTERIES. THEY MUST BE REASSEMBLED IN THE SAME ORIENTATION.

6. Once the maintenance operation has been completed, and reversing the previous battery instructions,
 - a. remount/reconnect the batteries, and
 - b. remount the battery bracket.

NOTE: Make sure the batteries are reinserted in the same orientation from which they were removed.

7. Turn the circuit breaker ON.

SEAT UPHOLSTERY CLEANING

All seating and operator contact areas are fabricated of common materials without a history of causing operator reactions or irritations. The SRE-3000 has been designed assuming that the operator will be wearing clothing covering the torso and footwear. If the user has special sensitivities, normal clothing precautions are suggested.

For day-to-day cleaning, use a mild soap and water solution and a soft, lint-free cloth. Do not use vinyl conditioners or protectants.

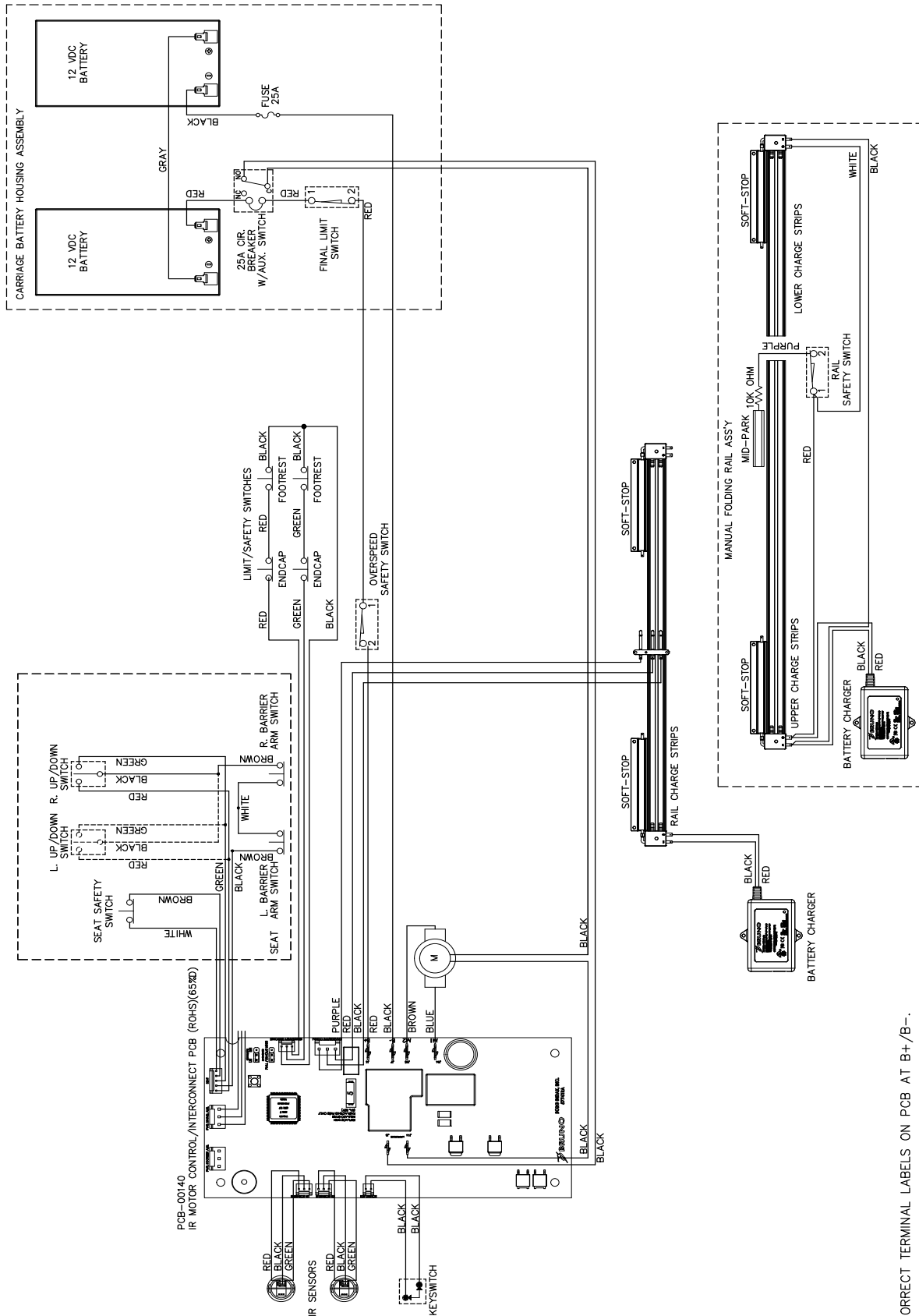
For more difficult stains, use an all-purpose cleaner such as Formula 409® or Fantastik® and a damp, soft cloth or sponge. Rinse with clean water and dry with a lint-free cloth or towel.

VACATION/LONG-TERM STORAGE

If the stairlift will remain unused for an extended period of time, turn off the circuit breaker (ON/OFF switch on the carriage), turn off the battery charger power switch (if equipped) and unplug the charger from the wall outlet.

The batteries may require recharging before normal use if the elevator remained in the OFF position for an extended period of time. To recharge, turn on the circuit breaker, reconnect the charger to the wall outlet, and turn on the battery charger power switch (if equipped). Then wait until the charger LED's indicate that the batteries are fully recharged.

WIRING SCHEMATIC



△ SHOW CORRECT TERMINAL LABELS ON PCB AT B+/B-.

no.	e.c.n.	date	by	revisions
1	5755	9-17-14	KAS	

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(262) 567-4091
FAX (262) 953-5504

Part must be free of welding scale and slag, sharp edges or corners, and burrs.

tolerances: ± 1.00
hole diam: $\pm .015$
slot width: $\pm .005$
angles: $\pm .5^\circ$

part name: **WIRING DIAGRAM**

material: ~

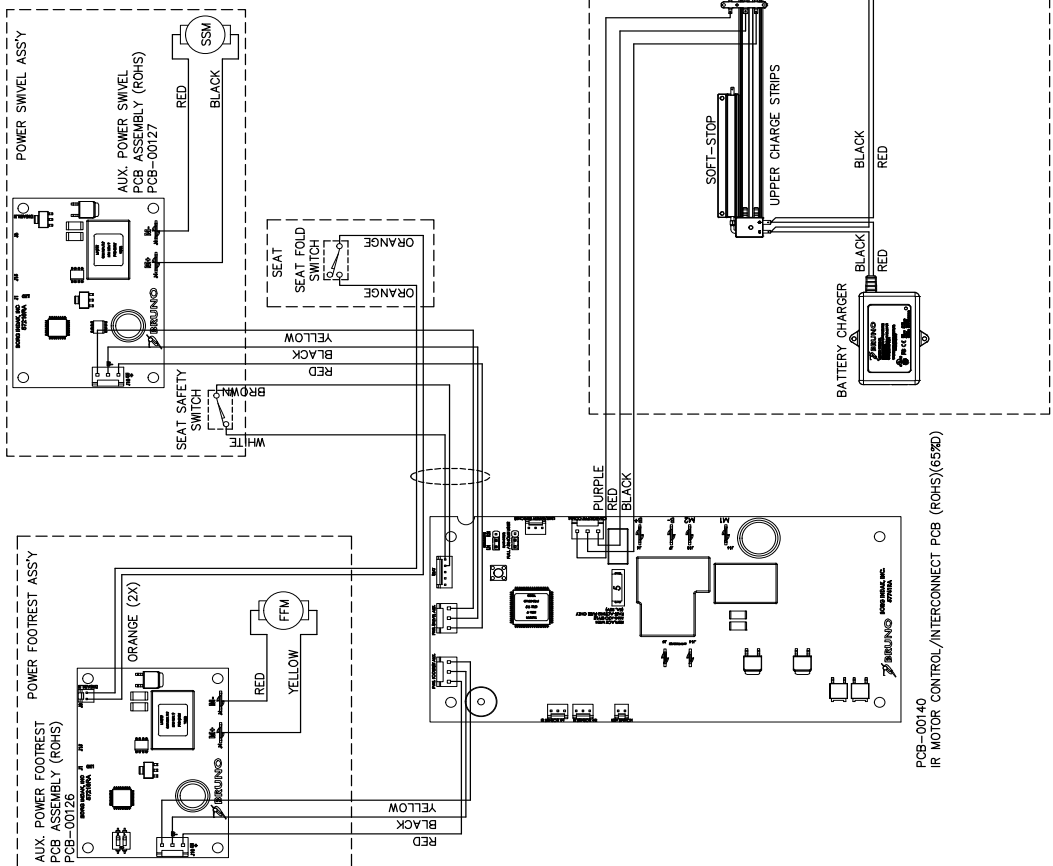
drawn by: KAS

scale: 1:1

date: 5-9-14

drawing no.: E SCH-00215

rev.: 1



△ SHOW CORRECT TERMINAL LABELS ON PCB AT B+/B-.

		SRE-3000/G	
tolerances: ± 0.005 lead on: ± 0.005		angles: $\pm 0.5^\circ$	
part name: WIRING DIAGRAM-POWER OPTIONS		material: ~	
drawn by: KAS		scale: 1:1	date: 5-9-14
checked: ~		size: E	sheet no: 00215
revision: 1		sheet 2 of 2	

Port must be free of welding scale and slag, sharp edges or corners, and burrs.

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TROUBLESHOOTING

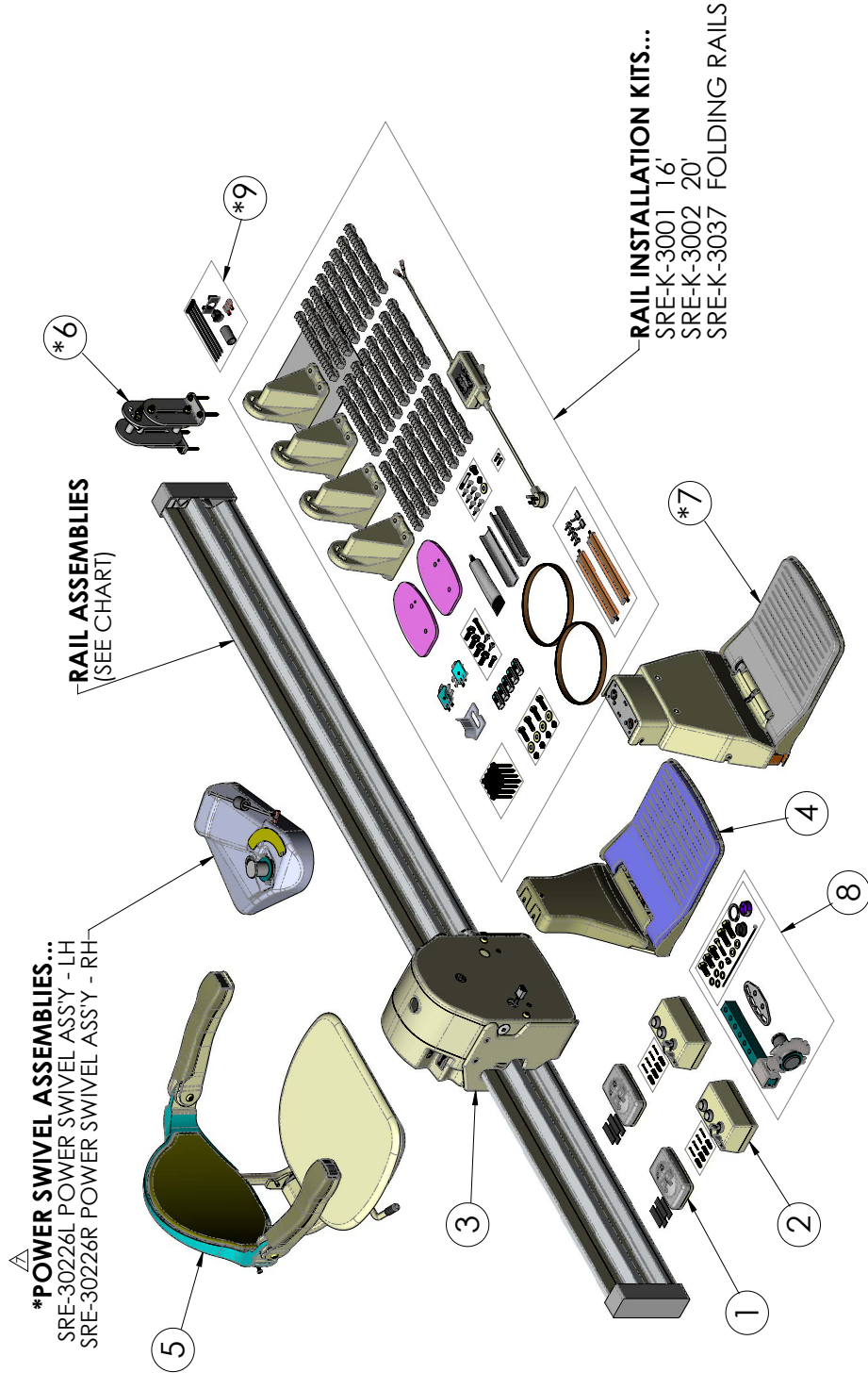
UNIT DOES NOT OPERATE	Check circuit breaker and main fuse. Reset or replace if necessary.
	Check battery connections.
	Check footrest safety switches to see if one of these limit switches is depressed. Sliding safety tray below footrest should slide freely and should not stick in a position which would depress one of the safety switches.
	Check for discharged batteries. Battery voltage should fall within the range of 20-28 VDC.
	Check that the keyswitch is ON
UNIT OPERATES SLOWLY, LACKS POWER	Check for discharged batteries.
	Check for loose connections.
	Check to make sure charger is plugged in and working.
REMOTE CALL/SENDS OPERATE BACKWARDS; UNIT GOES UP SLOWLY AND DOWN FASTER	Unit has been installed on the right-hand side of the stairs and the jumper has not been set to right hand.
UNIT OPERATES ERRATICALLY OR INTERMITTENTLY WITH REMOTE CALL/SENDS	Check all safety mechanisms, including swivel seat safety switch.
	Reorient the transmitter (to point directly at the carriage).
	Consult your dealer, an experienced technician or call the Technical Service Department.
UNIT OPERATES ERRATICALLY OR INTERMITTENTLY WITH A RIDER USING THE ARMREST MOUNTED CONTROL SWITCH	Check swivel seat safety switch.
	Check to see that the footrest safety tray is not dragging on the stair nosing or hitting debris on the stairs.
	Check the rail for debris that may bump safety switches (footrest and carriage panels).
	Adjust barrier arm switches.
UNIT WILL NOT OPERATE UNLESS THE SEAT IS POSITIONED SO THAT IT FACES THE OPEN SIDE OF THE STAIRS	This is correct lift operation.
	A safety switch in the seat swivel prevents the unit from operating with the seat "out of position".
UNIT WILL NOT OPERATE WITH REMOTE CALL/SENDS	Check batteries in remote call/sends.
	Aim transmitter at the carriage.
	Transmitters must be "learned" to receiver.
UNIT DOES NOT SHUT OFF WHEN IT HITS THE END OF THE RAIL	Verify correct operation of limit switches in carriage assembly.
ROUGH OR CHATTERING RIDE	Wipe down rail.
	Apply a small amount of grease to the gear rack only .

'ELAN' STRAIGHT RAIL STAIRLIFT

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	SRE-00945	IR TRANSMITTER w/VELCRO (STD) (ROHS)
2	2	SRE-00943A	IR TRANSMITTER/BACKET/HDWR (KEYED) (ROHS)
3	1	SRE-30099	CARRIAGE ASSEMBLY
4	1	SRE-30100	FOOTREST ASSEMBLY
5	1	SRE-30102	SEAT ASSEMBLY
*6	1	SRE-30150	ADJUSTABLE STAND FOOT ASSEMBLY
*7	1	SRE-30212	POWER FOOTREST ASSEMBLY
8	1	SRE-K-3011	FOOTREST/SEAT INSTALLATION KIT
*9	1	SRE-K-3027	FOOTREST FOLD SWITCH KIT (ARMREST MOUNT)

*OPTIONAL

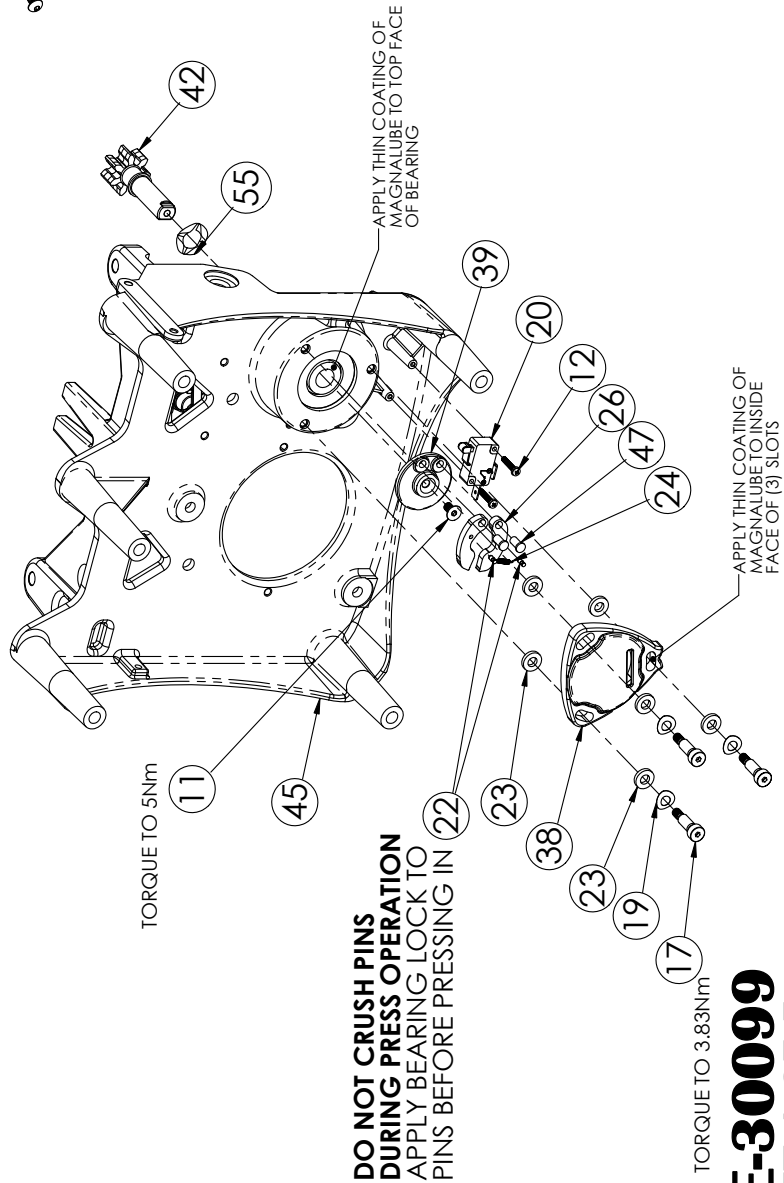
RAIL MATRIX	Standard(Anodized)	Optional(Painted)	Folding (Anodized)	Power Folding(Anodized)
16' Left/Right	(2)SRE-30094	(2)SRE-21094	N/A	N/A
16' Left	N/A	N/A	(1)SRE-30276 & (1)SRE-30094	(1)SRE-30278 & (1)SRE-30094
16' Right	N/A	N/A	(1)SRE-30277 & (1)SRE-30094	(1)SRE-30279 & (1)SRE-30094
18' Left	N/A	N/A	(1)SRE-30276 & (1)SRE-30095	(1)SRE-30278 & (1)SRE-30095
18' Right	N/A	N/A	(1)SRE-30277 & (1)SRE-30095	(1)SRE-30279 & (1)SRE-30095
20' Left/Right	(2)SRE-30095	(2)SRE-21095	N/A	N/A



SRE-3000
SHEET 1 OF 1
REV. 7 (5655)(6/1/14)(DPG)

CARRIAGE ASSEMBLY

ITEM NO.	QTY.-	PART NO.	DESCRIPTION
6	2	MBHCL-05008	M5 X .8 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
11	1	MFHSL-05002	M5 X .8 X 10MM LG FLAT HEAD SOCKET CAP SCREW W/ SERVICEABLE THREADLOCK (ZINC)
12	2	MPPM-03002	M3 X .5 X 16MM LG PHILLIPS PAN HEAD MACHINE SCREW
17	3	MSLS-06002	M6X1X16MM LG HEX HEAD SHOULDER BOLT
18	1	MSSS-05003	M5 X .8 X 16MM LG SET SCREW FLAT POINT (BLACK)
19	3	MWSW-06001	M6 SPRING WASHER
20	1	PBS-00136	SPST PUSHBUTTON SWITCH (POS. BREAK)
22	2	PIN-09001	Ø3/32" X 1/4" LG GROOVED STEEL DOWEL PIN "TYPE G"
23	6	SNW-25001	NYLON WASHER (.25" ID X .5" OD X .093" THK)
24	1	SPR-00080	EXTENSION SPRING (.007" WD X .109" OD X .50" LG)
26	2	SRE-27360	OVERSPEED TRIP LEVER
38	1	SRE-30053	STOP FLANGE
39	1	SRE-30054	GEAR SHAFT LEVER CAP
42	1	SRE-30070	OVERSPEED GEAR SHAFT (.005" CROWN CUT)
45	1	SRE-30103	DRIVE CARRIAGE/BEARING ASSEMBLY
47	2	SRE-30161	RETAINING PIN
48	1	SRE-30166	CARRIAGE GUIDE BLOCK
55	1	WSW-50001	1/2" WAVE SPRING WASHER



SRE-30099
SHEET 1 OF 5
REV. 14 (5808)(4/17/15)(DPG)

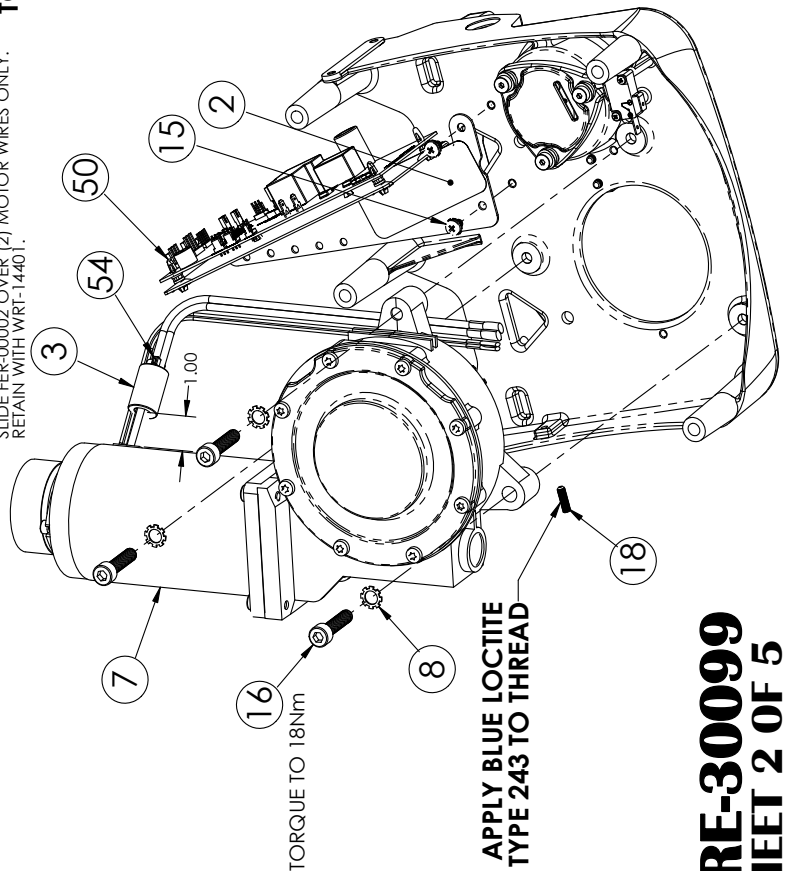
CARRIAGE ASSEMBLY

ITEM NO.	QTY.	PART NO.	DESCRIPTION
2	1	DEC-00122	PATENT DECAL
3	1	FER-00002	FERRITE BEAD-TYPE 43 - (.74 OD X .40 ID X 1.13 LG)
7	1	MDC-24027	24V DC GEAR MOTOR W/BRAKE, GEAR & KEY (TORNADO)
8	3	METW-08001	M8 EXTERNAL TOOTH WASHER
9	2	MFS-05001	M5 X .8 X 1.6MM LG FLAT HEAD SOCKET CAP SCREW (BLACK)
13	2	MPPM-04706	M4 X .7 X 12MM LG PHILLIPS PAN HEAD MACHINE SCREW
15	4	MSEM-05801	M5 X .8 X 8MM LG PHILLIPS PAN HEAD MACHINE SCREW
16	3	MHS-08006	M8 X 1.25 X 35MM METRIC SOCKET HEAD CAP SCREW
18	1	MSSS-05003	M5 X .8 X 1.6MM LG SET SCREW FLAT POINT (BLACK)
21	2	PBS-00145	SPST NC PUSHBUTTON SWITCH .75A (.250 X .032 TERM.)
37	1	SRE-30046	GEAR GUARD
41	1	SRE-30059	CARRIAGE CHARGE MTG PLATE
43	7	SRE-30071	WHEEL ASSEMBLY - Ø1.178"
50	1	SRE-30297	MOTOR CONTROLLER ASSEMBLY
51	1	SRE-30306	CARRIAGE CHARGE CONTACT ASSEMBLY
53	1	WRT-10001	4" LG WIRE TIE (.1" WIDTH)
54	1	WRT-14401	6" LG WIRE TIE (.144" WIDTH)
57	2	~	SERIAL NO. LABEL (SMALL)



APPLY BLUE LOCTITE TYPE 243
TO TAPPED HOLES - (2) PLACES

NOTE:
SLIDE FER-00002 OVER (2) MOTOR WIRES ONLY.
RETAIN WITH WRT-14401.



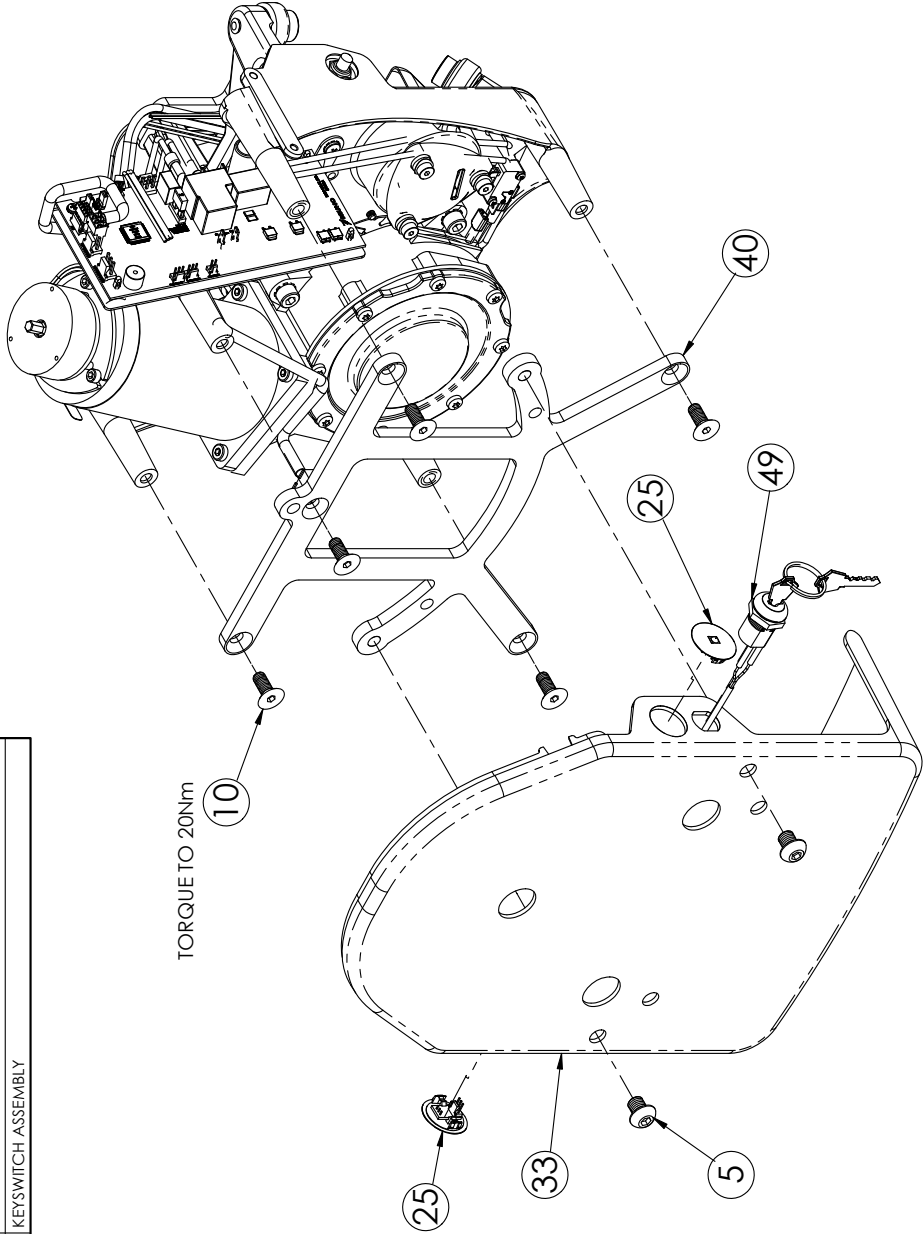
APPLY BLUE LOCTITE
TYPE 243 TO THREAD

TORQUE TO .68Nm

TORQUE TO 17Nm

CARRIAGE ASSEMBLY

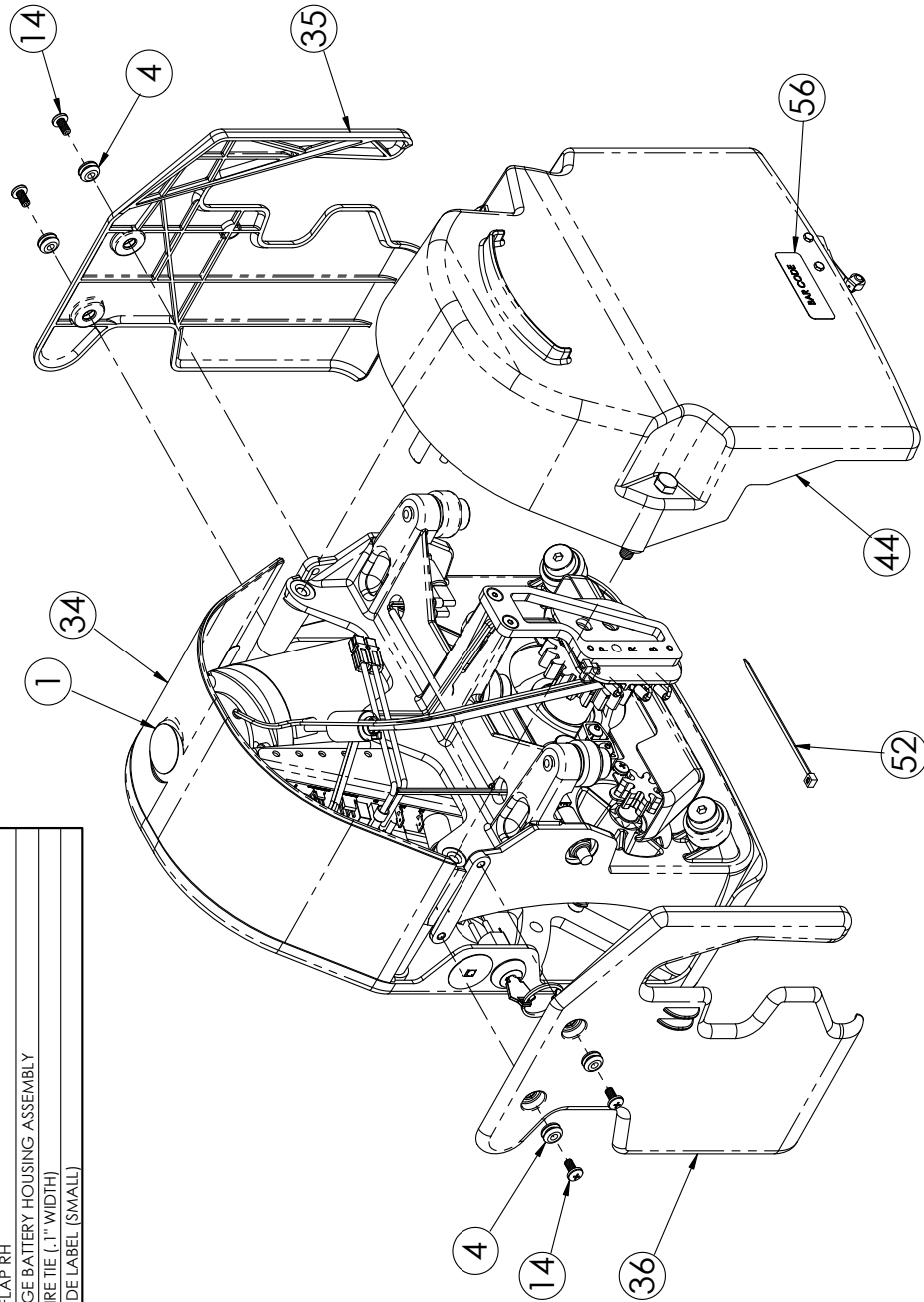
ITEM NO.	QTY.-	PART NO.	DESCRIPTION
5	2	MBHC-10003	M10 X 1.5 X 12mm METRIC BUTTON HEAD CAP SCREW
10	5	MFHS-08003	M8 X 1.25 X 20mm LG FLAT HEAD SOCKET CAP SCREW
18	1	MSSS-05003	M5 X .8 X 16MM LG SET SCREW FLAT POINT (BLACK)
25	2	SRE-00948	IR SENSOR ASSEMBLY (ROHS)
33	1	SRE-30031	FRONT CARRIAGE COVER
40	1	SRE-30058	FOOTREST MOUNTING PLATE
49	1	SRE-30294	KEYSWITCH ASSEMBLY



SRE-30099
SHEET 3 OF 5
REV. 14 (5808)(4/17/15)(DPG)

CARRIAGE ASSEMBLY

ITEM NO.	-QTY.-	PART NO.	DESCRIPTION
1	1	CPP-10002	1" HEYCO DOME CAP PLUG
4	4	GRR-19001	3/16" ID RUBBER GROMMET
10	5	MIFS-08003	M8 X 1.25 X 20mm LG FLAT HEAD SOCKET CAP SCREW
14	4	MPPM-05001	M5 X .8 X 10MM LG PHILLIPS PAN HEAD MACHINE SCREW
18	1	MSSS-05003	M5 X .8 X 16MM LG SET SCREW FLAT POINT (BLACK)
34	1	SRE-30033	TOP-MID CARRIAGE COVER
35	1	SRE-30034L	SAFETY FLAP LH
36	1	SRE-30034R	SAFETY FLAP RH
44	1	SRE-30098	CARRIAGE BATTERY HOUSING ASSEMBLY
52	1	WRT-10001	4" LG WIRE TIE (.1" WIDTH)
56	1	~	BAR CODE LABEL (SMALL)

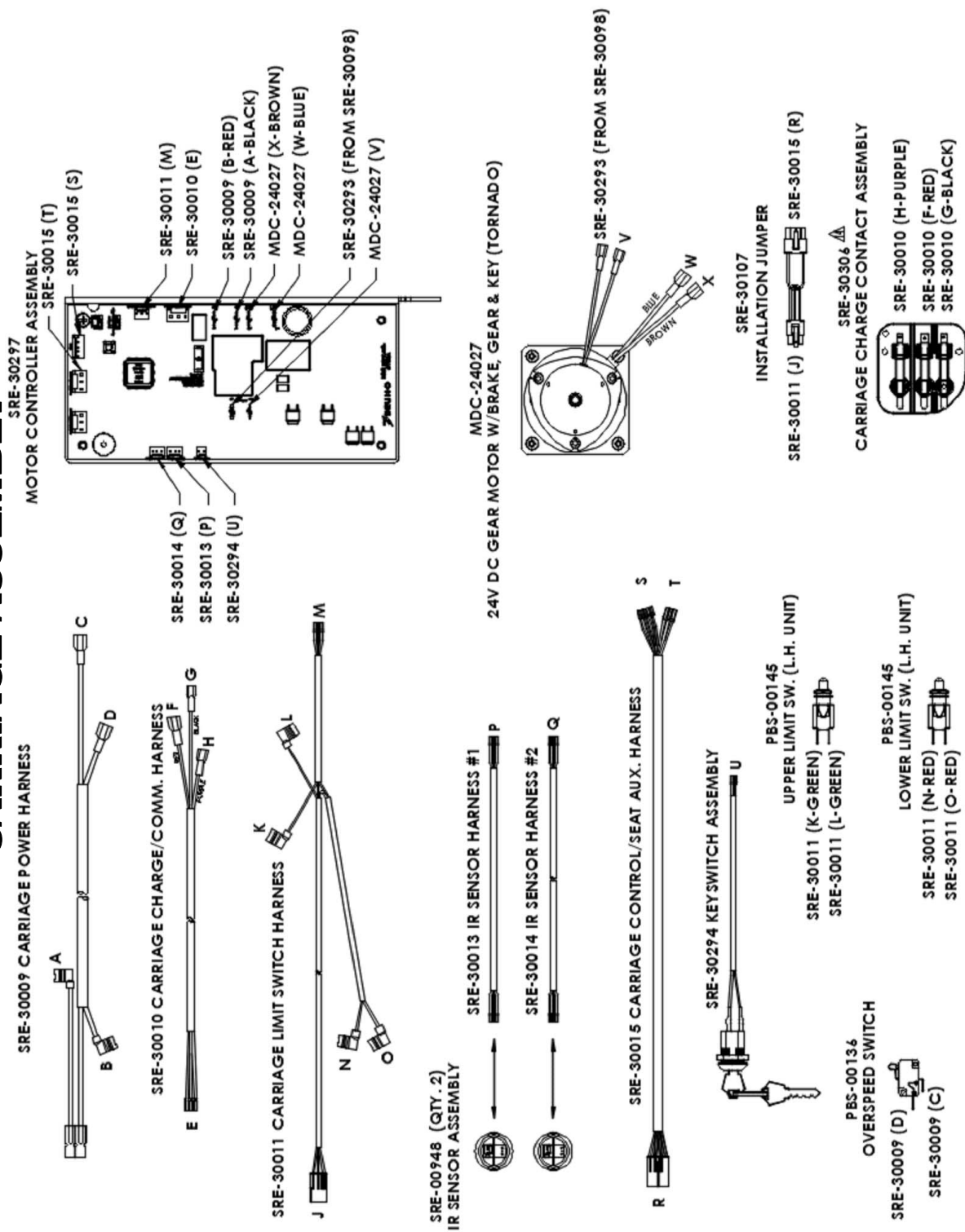


EXPLODED VIEW

SRE-30099
SHEET 4 OF 5
REV. 14 (5808)(4/17/15)(DPG)

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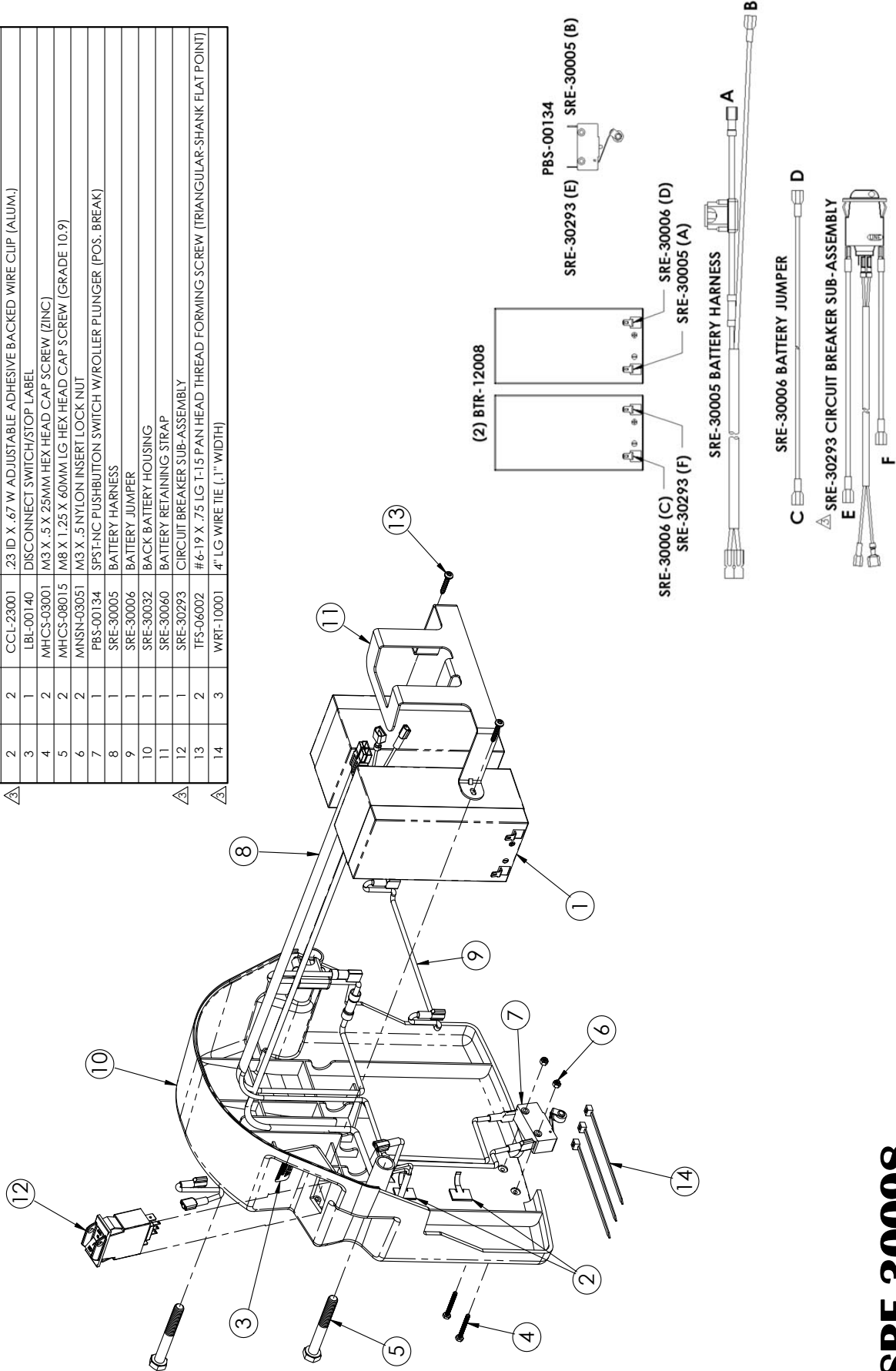
CARRIAGE ASSEMBLY



SRE-30099
SHEET 5 OF 5
REV. 14 (5808)(4/17/15)(DPG)

CARRIAGE BATTERY HOUSING ASSEMBLY

ITEM NO.	QTY.-	PART NO.	DESCRIPTION
1	2	BTR-12008	12V 3AH MAINT-FREE BATTERY
2	2	CCL-23001	.23 ID X .67 W ADJUSTABLE ADHESIVE BACKED WIRE CLIP (ALUM.)
3	1	LBL-00140	DISCONNECT SWITCH/STOP LABEL
4	2	MHCS-03001	M3 X .5 X 25MM HEX HEAD CAP SCREW (ZINC)
5	2	MHCS-08015	M8 X 1.25 X 60MM LG HEX HEAD CAP SCREW (GRADE 10.9)
6	2	MNSN-03051	M3 X .5 NYLON INSERT LOCK NUT
7	1	PBS-00134	SPST-NC PUSHBUTTON SWITCH W/ROLLER PLUNGER (POS. BREAK)
8	1	SRE-30005	BATTERY HARNESS
9	1	SRE-30006	BATTERY JUMPER
10	1	SRE-30032	BACK BATTERY HOUSING
11	1	SRE-30060	BATTERY RETAINING STRAP
12	1	SRE-30293	CIRCUIT BREAKER SUB-ASSEMBLY
13	2	TFS-06002	#6-19 X .75 LG T-15 PAN HEAD THREAD FORMING SCREW (TRIANGULAR-SHANK FLAT POINT)
14	3	WRT-10001	4" LG WIRE TIE (.1" WIDTH)



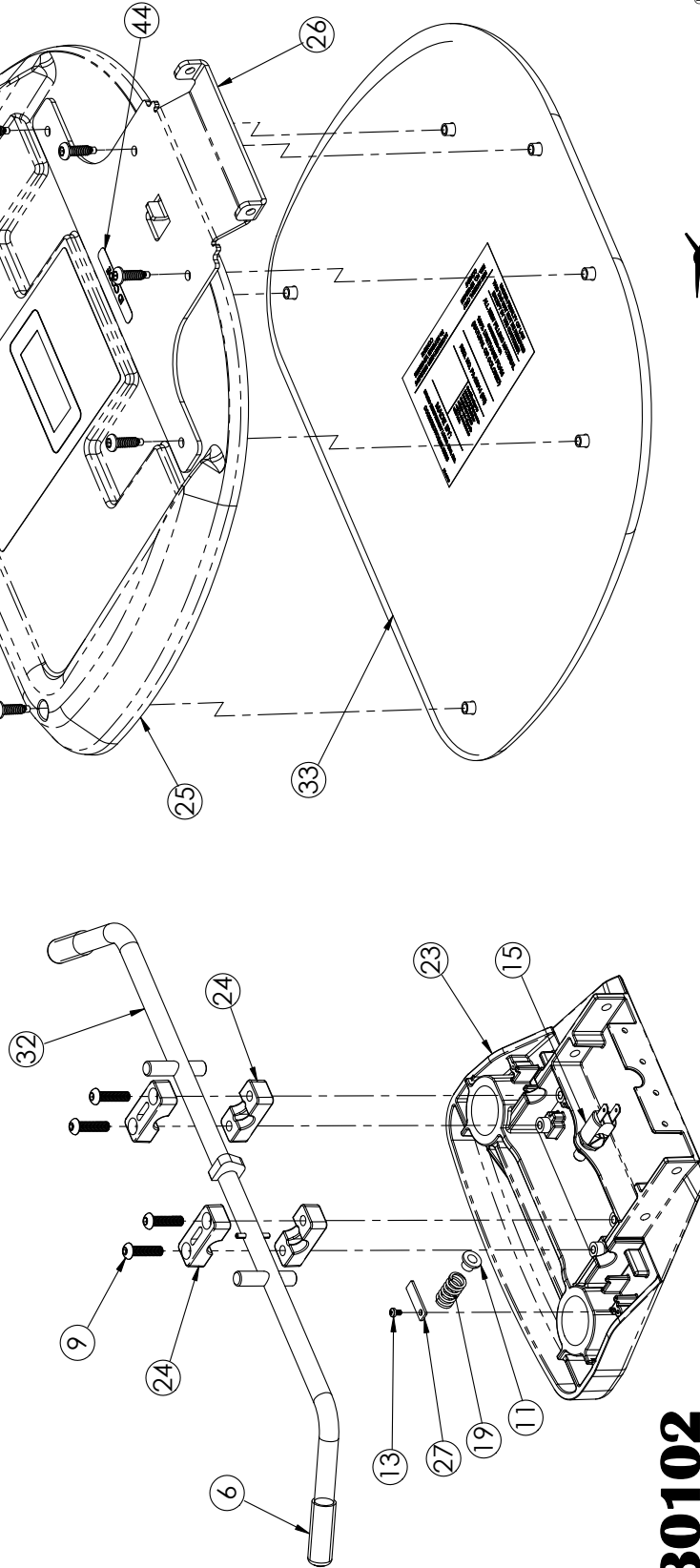
SRE-30098
SHEET 1 OF 1
REV. 3 (5590)(2/17/14)(KAS)

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SEAT ASSEMBLY

EXPLODED VIEW

ITEM NO.	QTY.	PART NO.	DESCRIPTION
5	1	DEC-00447	DATA PLATE (SRE-3000)
6	2	GRV-50003	BLACK VINYL GRIP (.50" ID X 1.75" LG)
9	6	MBHC-06011	M6 X 1 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC)
11	1	MIS-24001	SCREW INSULATOR
13	1	MPPM-03006	M3 X .5 X 5MM LG PHILLIPS PAN HEAD MACHINE SCREW (ZINC)
14	6	MIPH-06001	M6 X 1 X 20MM T30 TORX PAN HEAD MAThread w/MATPoint (MERCEDES-BENZ)
15	1	PBS-00145	SPST NC PUSHBUTTON SWITCH .75A (.250 X .032 TERM.)
19	1	SPR-00087	COMPRESSION SPRING (.063" WD X .48" OD X .875 LG) (ZINC PLATED)
23	1	SRE-30050	SEAT BASE
24	4	SRE-30052	SWIVEL LEVER BEARING BLOCK
25	1	SRE-30065	SEAT BOTTOM COVER
26	1	SRE-30074	SEAT FOLD BOTTOM PLATE
27	1	SRE-30075	SPRING RETAINER
32	1	SRE-30085CP	SEAT SWIVEL HANDLE RELEASE WELDMENT (CHAMPAGNE)
33	1	SRE-30088	SEAT BOTTOM ASSEMBLY
44	1	~	ID CODE LABEL (SMALL)

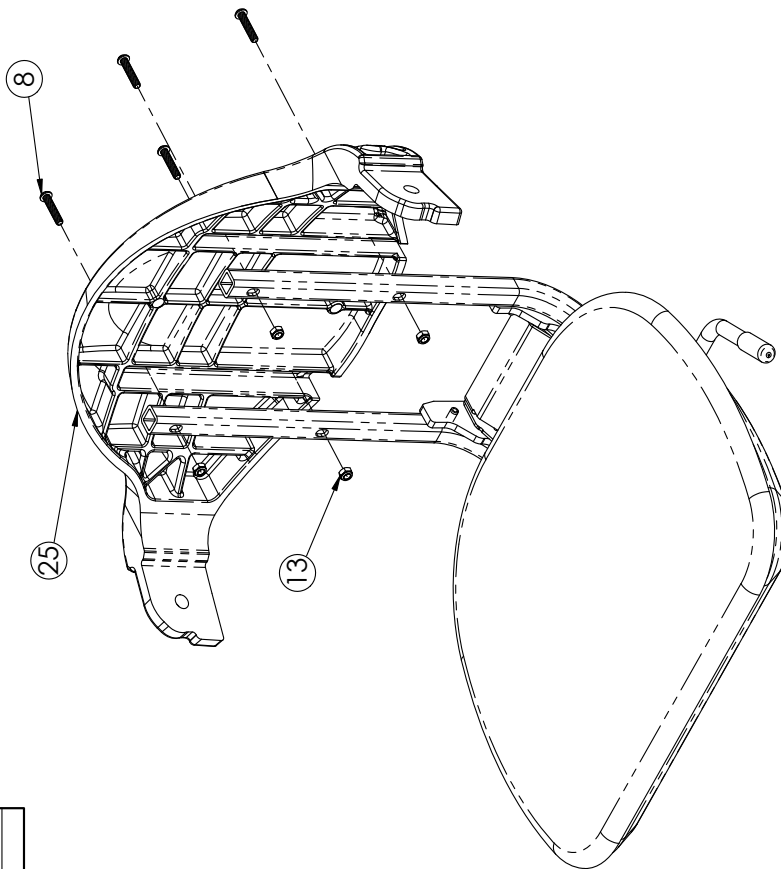
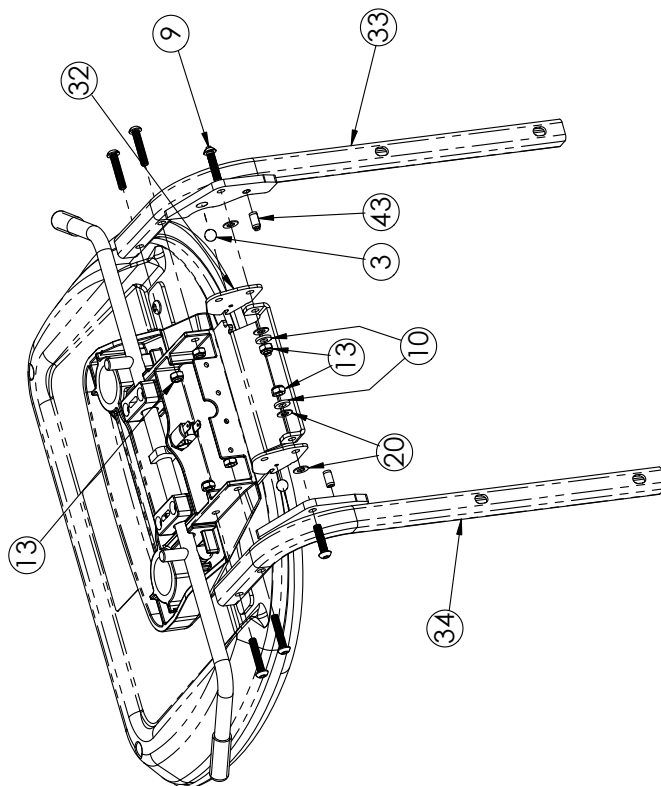


SRE-30102
SHEET 1 OF 5
REV. 8 (5820)(2/2/15)(MTB)

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SEAT ASSEMBLY

ITEM NO.	QTY.	PART NO.	DESCRIPTION
3	2	BRC-38011	3/8" DIA. STEEL BALL (HARDENED - ROCKWELL C60)
8	8	MBHC-06008	M6 X 1 X 30MM LG BUTTON HEAD CAP SCREW (ZINC)
9	2	MBHC-06011	M6 X 1 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC)
10	2	MFSW-06001	M6 FLAT WASHER (HARDENED)
13	10	MNSN-06100	M6 X 1 NYLON INSERT LOCK NUT
20	4	SNW-25703	NYLON WASHER (.257" ID X 1/2" OD X .032" THK)
25	1	SRE-30045	SEAT BACK
32	2	SRE-30078	SEAT FOLD LOCK
33	1	SRE-30081LCP	SEAT TUBE WELDMENT - LEFT
34	1	SRE-30081RCP	SEAT TUBE WELDMENT - RIGHT
43	2	SRPS-25002	ø1/4" X .5" LG ROLL PIN STAINLESS STEEL

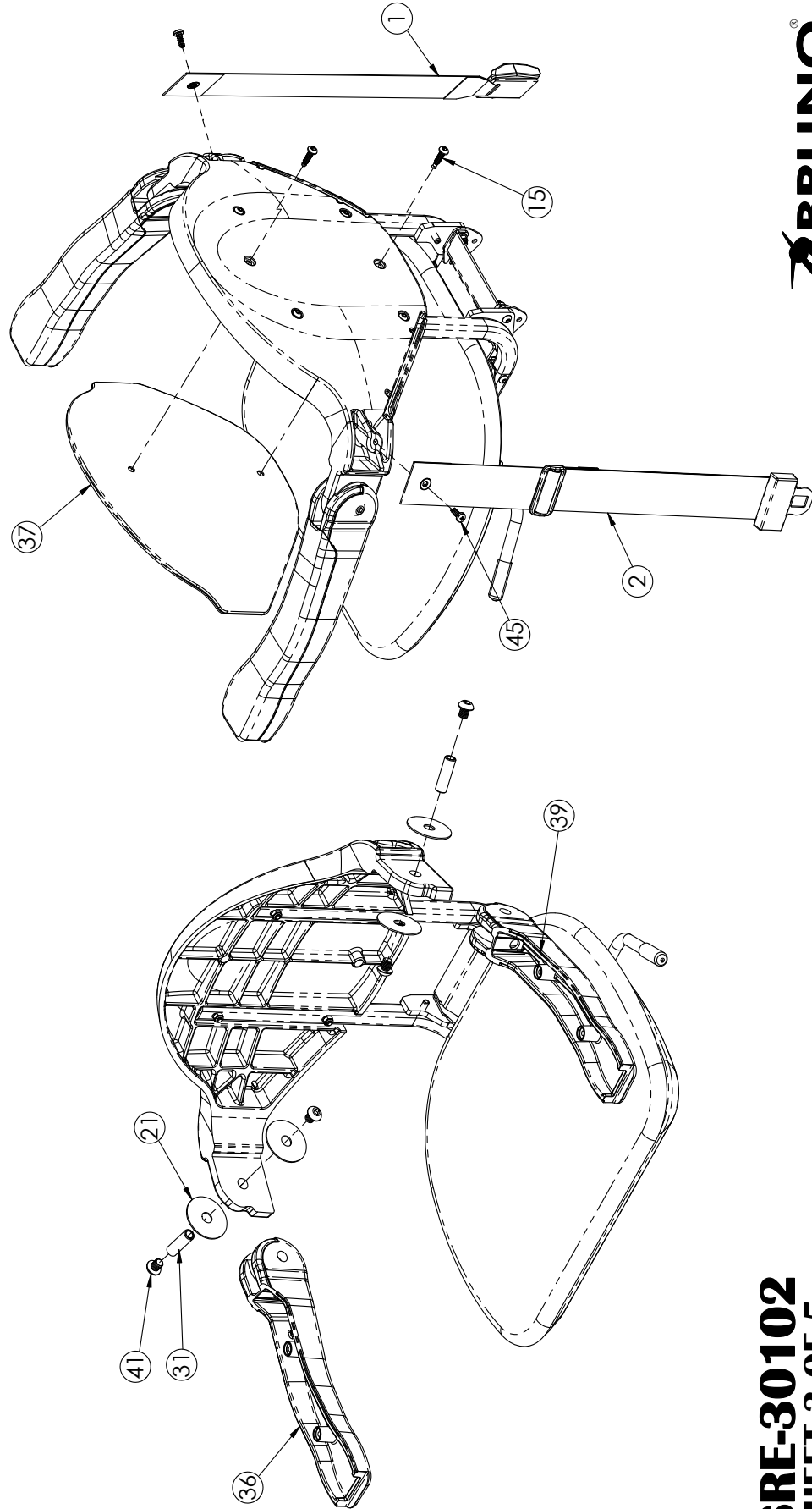


SRE-30102
SHEET 2 OF 5
REV. 8 (5820)(2/2/15)(MTB)

SEAT ASSEMBLY

EXPLODED VIEW

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	BLT-00019	FIXED LENGTH SEAT BELT (FEMALE)
2	1	BLT-00019	ADJUSTABLE SEAT BELT (MALE)
15	2	MTPH-06001	M6 X 1 X 20MM T30 TORX PAN HEAD MAThread w/MATPoint (MERCEDES-BENZ)
21	4	SNW-51001	NYLON WASHER (.510" ID X 2.00" OD X .06" THK)
31	2	SRE-30077	ARMREST PIVOT PIN
37	1	SRE-30091	SEAT BACK ASSEMBLY
39	1	SRE-30101L	ARMREST ASSEMBLY - LH
36	1	SRE-30101R	ARMREST ASSEMBLY - RH
41	4	SRE-30168	M10 X 1.5 X 12MM LG BTN HEAD CAP SCRW (SPECIAL-UNDERCUT) - WAX TOP COAT
45	2	TFS-12101	#12 X .625" LG. (48-2) THREAD ROLLING PHILLIPS PAN HEAD SCREW (ZINC)

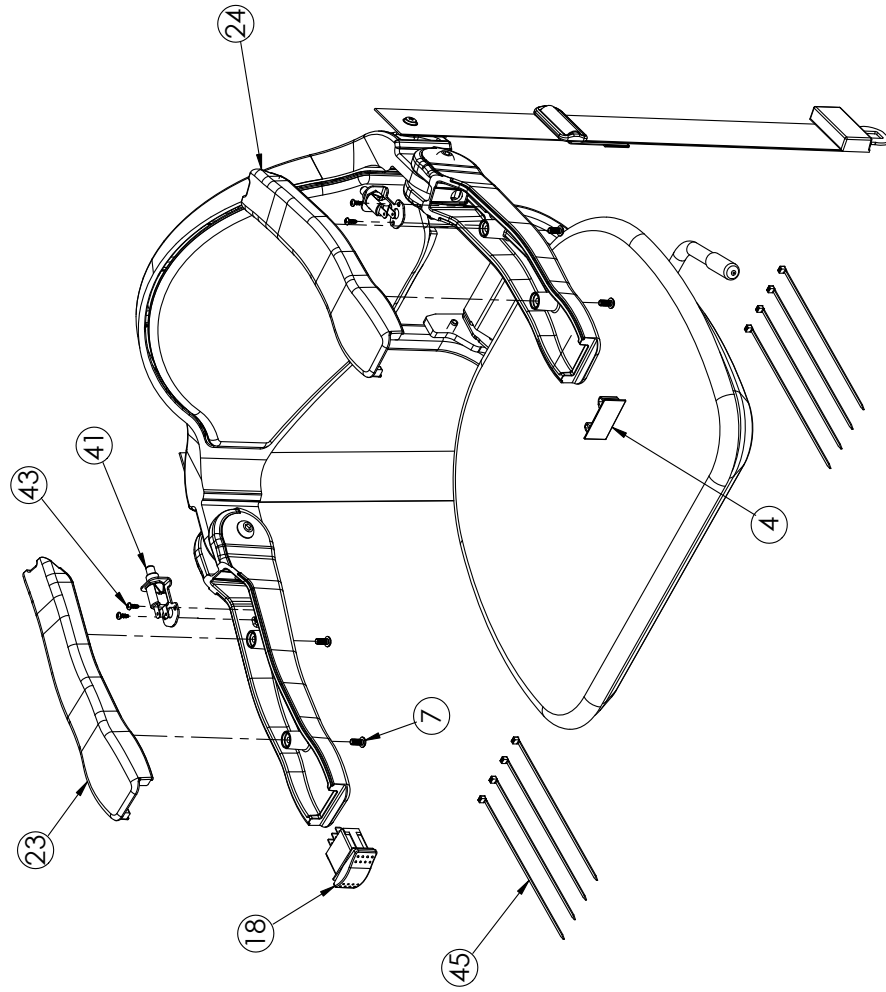


SRE-30102
SHEET 3 OF 5
REV. 8 (5820)(2/2/15)(MTB)

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SEAT ASSEMBLY

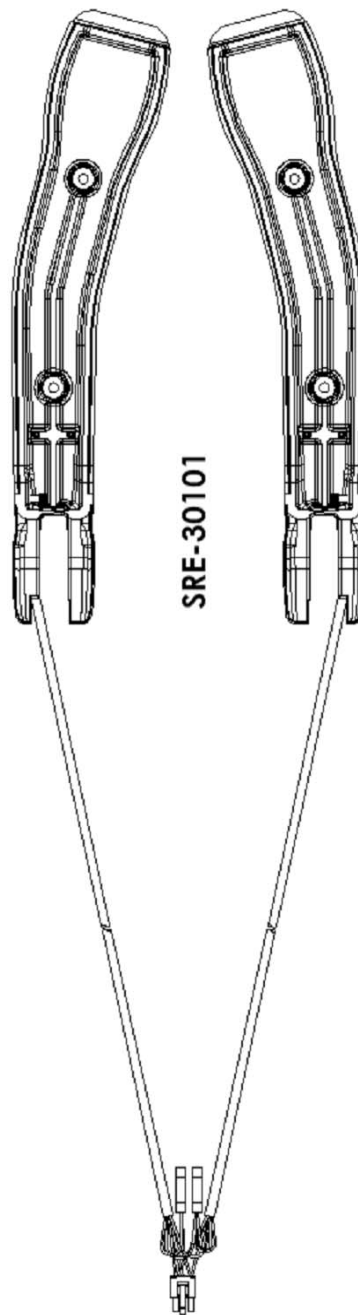
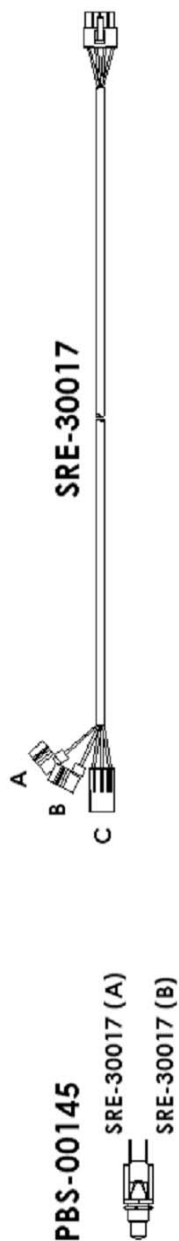
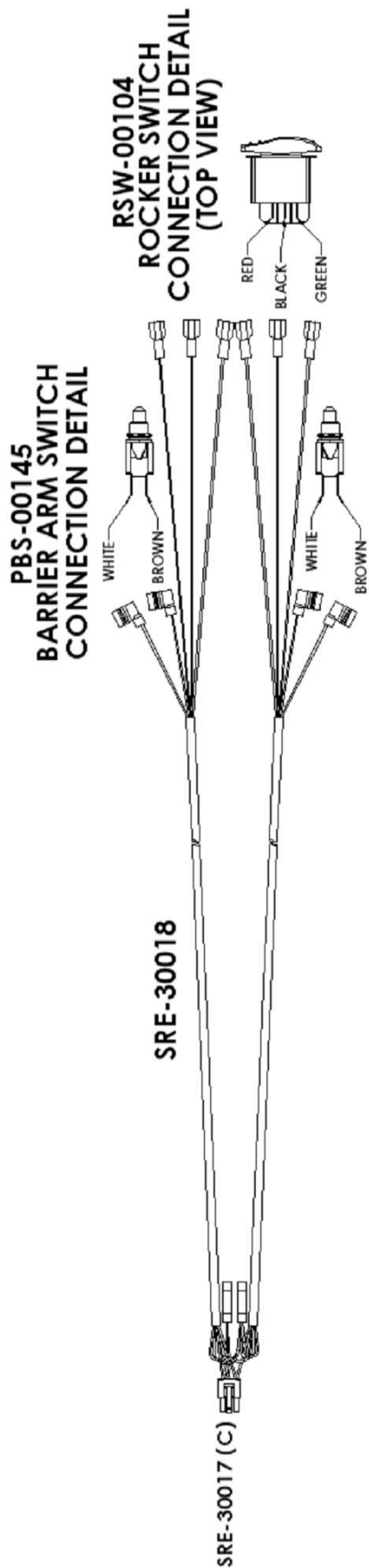
ITEM NO.	QTY.	PART NO.	DESCRIPTION
4	1	CPP-00001	CAP PLUG (HOLE PLUG FOR RSW-00104)
7	4	MBHC-05006	M5 X .8 X 12MM LG BUTTON HEAD SOCKET CAP SCREW (BRIGHT ZINC)
18	1	RSW-00104	SPDT MOMENTARY ROCKER SWITCH
23	1	SRE-30042	RH ARMREST TOP
24	1	SRE-30044	LH ARMREST TOP
41	2	SRE-30248	BARRIER ARM SWITCH ASSEMBLY
43	4	TFS-06003	#6-19 X .375" LG PHILLIPS PAN HEAD THREAD FORMING SCREW (ROUND-SHANK FLAT POINT) (ZINC)
45	8	WRT-10002	7.2" LG WIRE TIE (.100" WIDTH)-NATURAL



SRE-30102
SHEET 4 OF 5
REV. 8 (5820)(2/2/15)(MTB)

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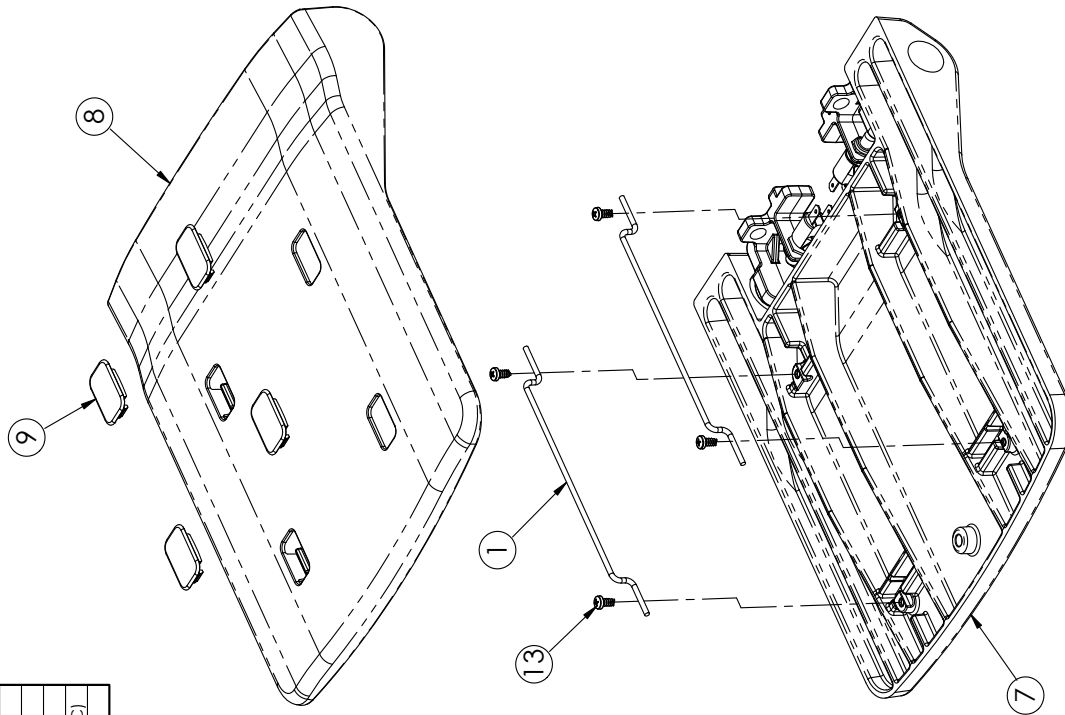
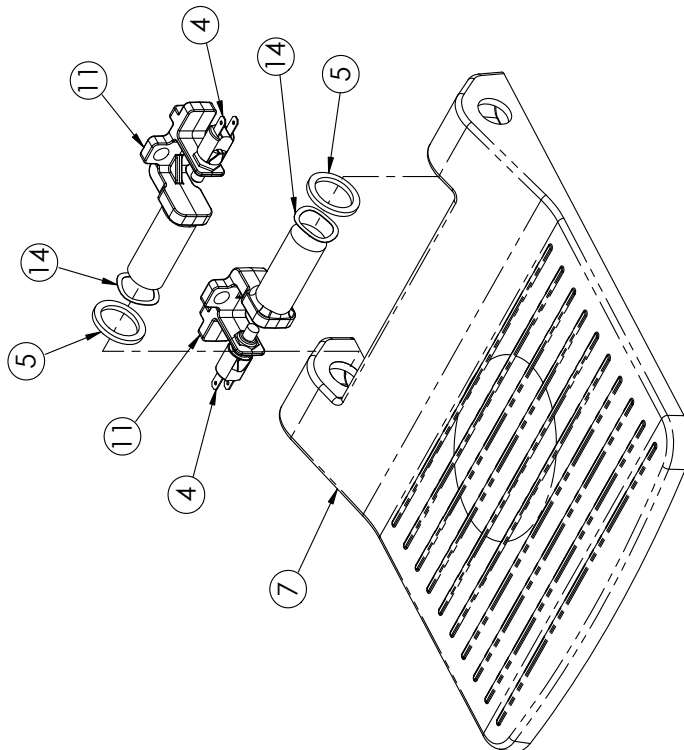
SEAT ASSEMBLY



SRE-30102
SHEET 5 OF 5
REV. 8 (5820)(2/2/15)(MTB)

FOOTREST ASSEMBLY

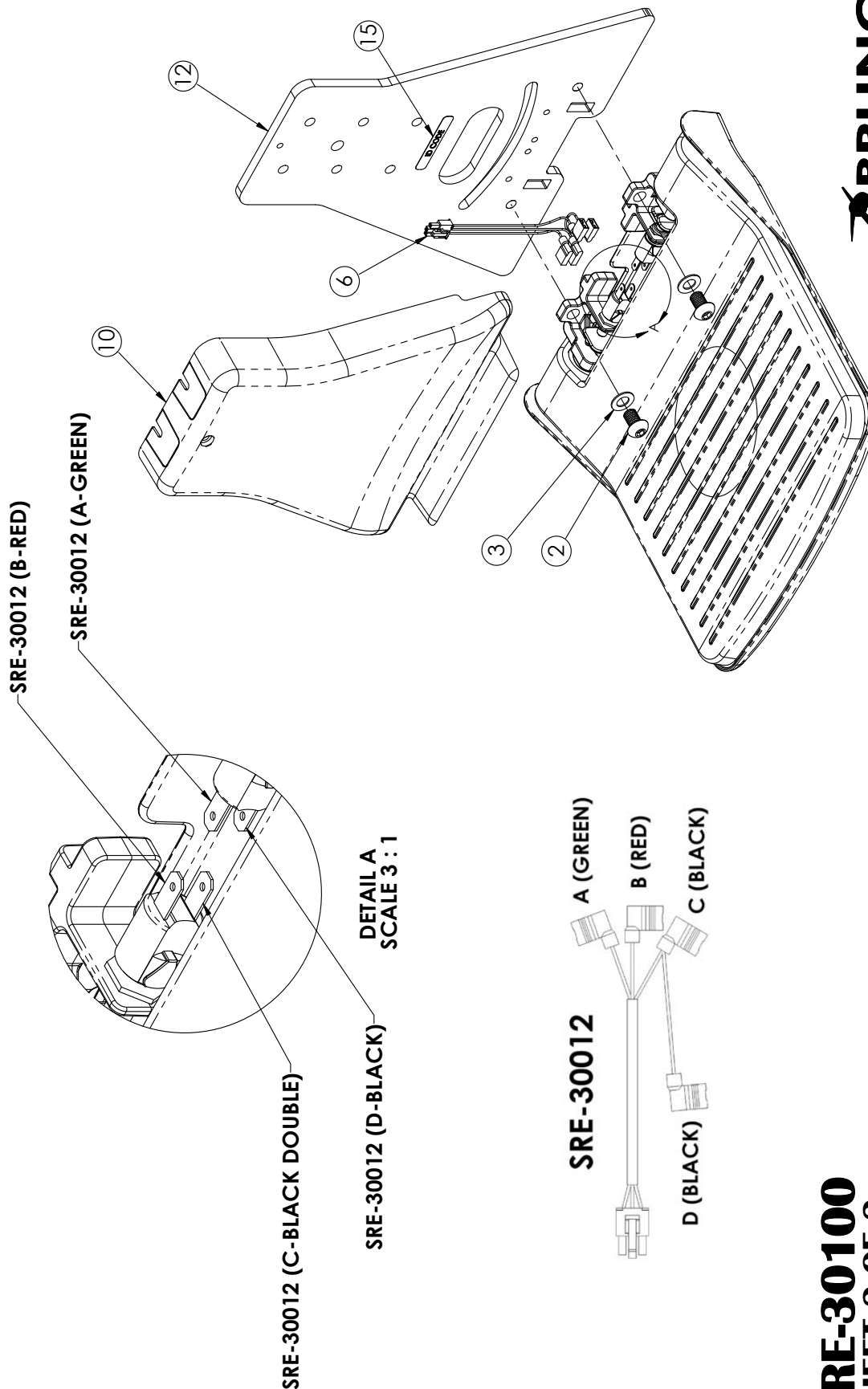
ITEM	QTY.	PART NO.	DESCRIPTION
1	2	CRE-00169	SAFETY HANGER
4	2	PBS-00145	SPST NC PUSHBUTTON SWITCH .75A (.250 X .032 TERM.)
5	2	SNW-10141	FOOTREST PIVOT SPACER
7	1	SRE-30036	FOOTREST
8	1	SRE-30037	MOLDED SAFETY PAN
9	4	SRE-30038	SAFETY PAN HANGER INSERT
11	2	SRE-30049	FOOTREST BRACKET
13	4	TFS-08602	#8-16 X .375" LG PLASTITE THREAD ROLLING PHILLIPS PAN HEAD SCREW (ZINC)
14	2	WSW-90101	.901" WAVE SPRING WASHER



SRE-30100
SHEET 1 OF 2
REV. 5 (5766)(10/9/14)(JDE)

FOOTREST ASSEMBLY

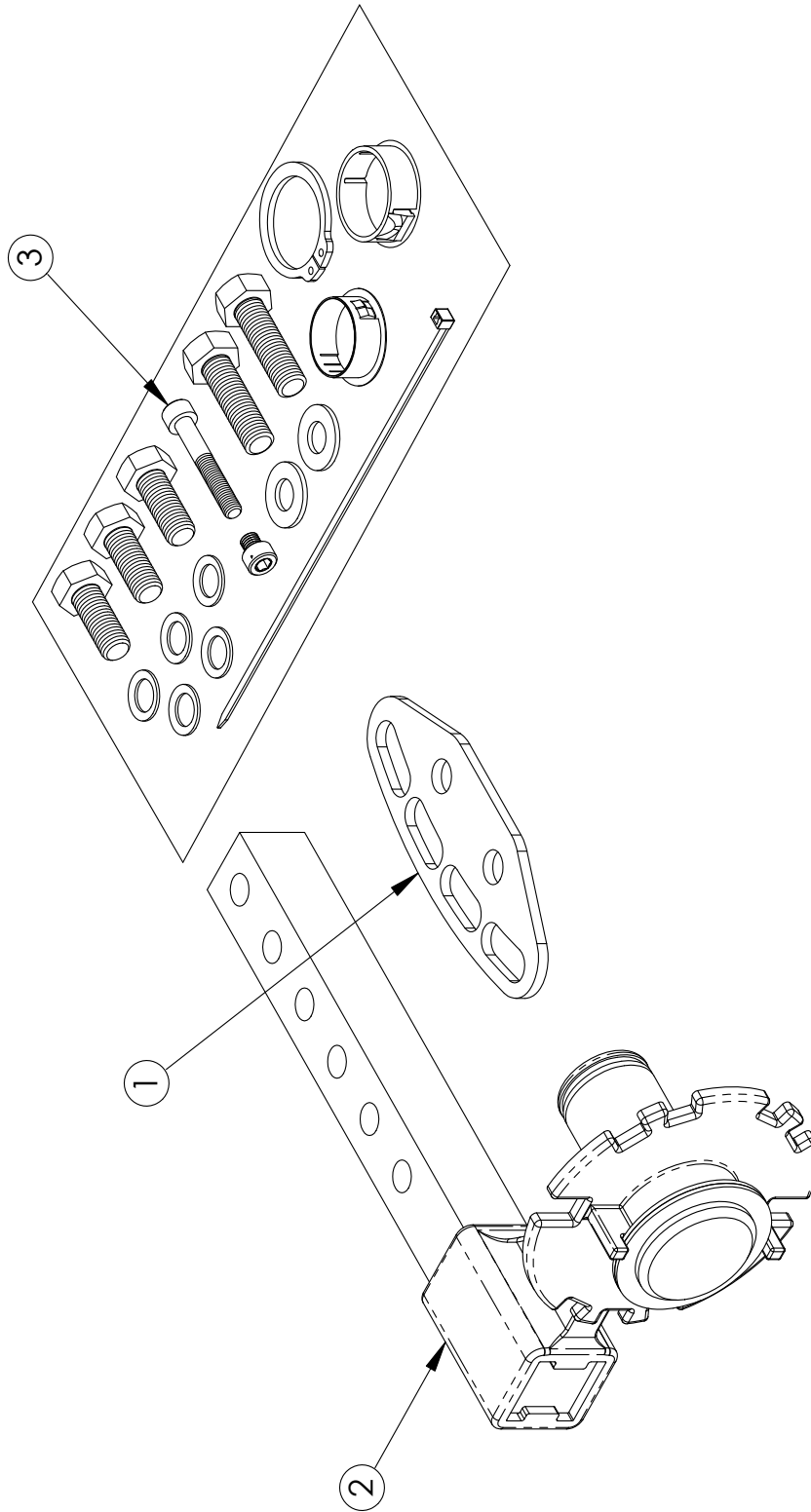
ITEM NO.	QTY.	PART NO.	DESCRIPTION
2	2	MBHC-10007	M10 X 1.5 X 16MM METRIC BUTTON HEAD CAP SCREW
3	2	MFSW-10002	M10 FLAT WASHER .410 ID X .750 OD X .042 THK (ZINC)
6	1	SRE-30012	FOOTREST LIMIT HARNESS
10	1	SRE-30039	FOOTREST COVER
12	1	SRE-30064	FOOTREST MOUNT PLATE
15	1	~	ID CODE LABEL (SMALL)



SRE-30100
SHEET 2 OF 2
REV. 5 (5766)(10/9/14)(JDE)

FOOTREST/SEAT INSTALLATION KIT

ITEM NO.	QTY.-	PART NO.	DESCRIPTION
1	1	SRE-30072	FOOTREST LOCK PLATE
2	1	SRE-30097	SEAT POST/SEAT PIVOT PIN ASSEMBLY
3	1	SRE-K-3012	FOOTREST/SEAT HARDWARE KIT



EXPLODED VIEW

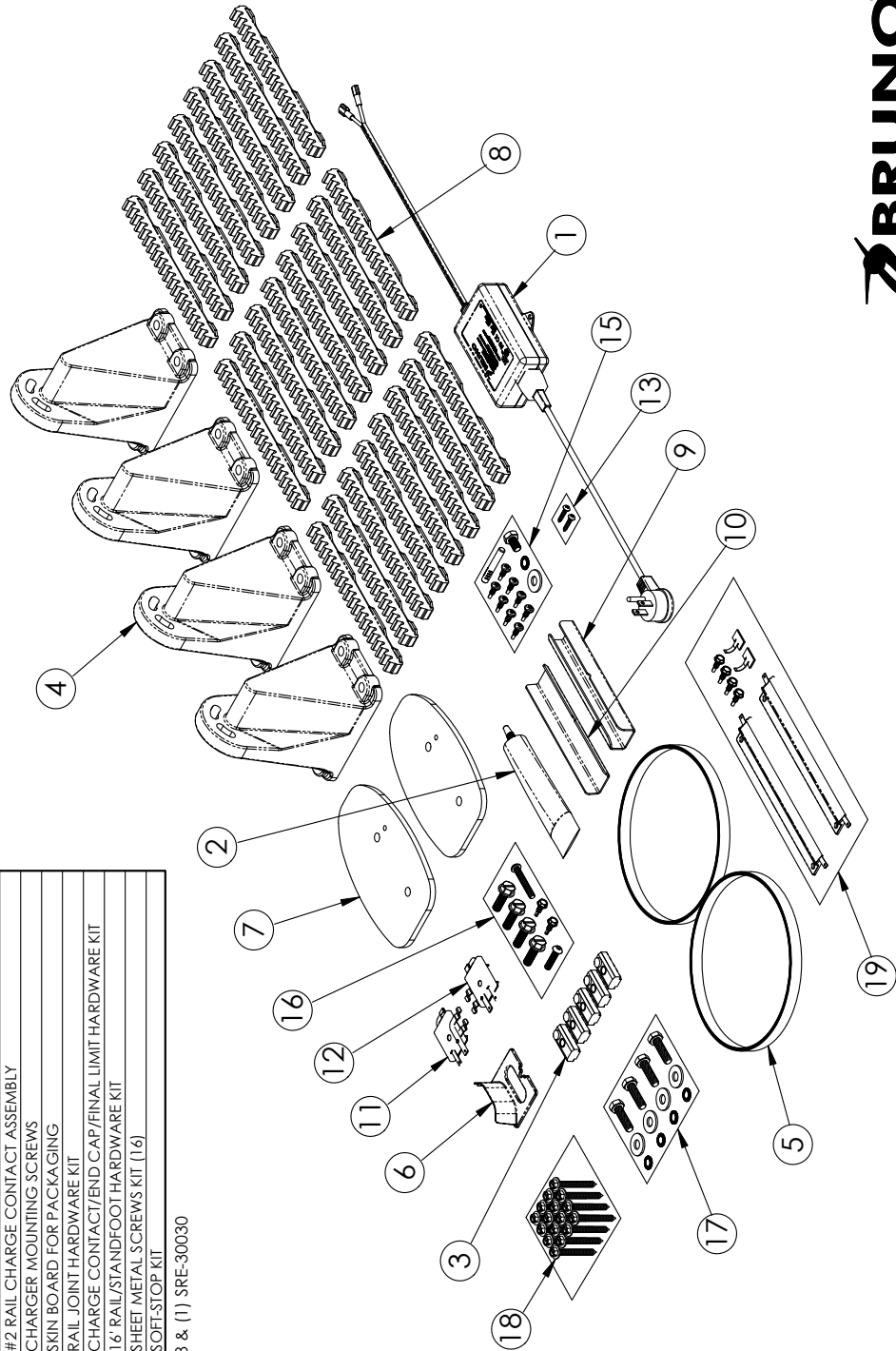
SRE-K-3011
SHEET 1 OF 1
REV. 1 (5390)(5/9/13)(DPG)

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16' RAIL INSTALLATION KIT

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	BCR-24022	24VDC/1A 105-230VAC BATTERY CHARGER (US PLUG)
2	1	LUB-00102	LUBRI-PLATE 1.75 OZ. TUBE
3	5	SRE-20997	NUT BAR ASSEMBLY
4	4	SRE-30001	STAND FOOT
5	2	SRE-30004	CHARGE CONTACT STRIP - 16' RAIL
6	1	SRE-30029	FINAL LIMIT ACTUATOR
7	2	SRE-30055	END CAP
8	24	SRE-30177	8 PITCH GEAR RACK SEGMENT
9	1	SRE-30235	BOTTOM JOINT BRACKET
10	1	SRE-30236	TOP JOINT BRACKET
11	1	SRE-30291	#1 RAIL CHARGE CONTACT ASSEMBLY
12	1	SRE-30292	#2 RAIL CHARGE CONTACT ASSEMBLY
13	1	SRE-K-1518	CHARGER MOUNTING SCREWS
14	1	SRE-K-3001S8	SKIN BOARD FOR PACKAGING
15	1	SRE-K-3004	RAIL JOINT HARDWARE KIT
16	1	SRE-K-3006	CHARGE CONTACT/END CAP/FINAL LIMIT HARDWARE KIT
17	1	SRE-K-3008	16' RAIL/STANDFOOT HARDWARE KIT
18	1	SRE-K-3013	SHEET METAL SCREWS KIT (16)
19	1	SRE-K-3046	SOFT-STOP KIT

△ REMOVED(2) SRE-30028 & (1) SRE-30030



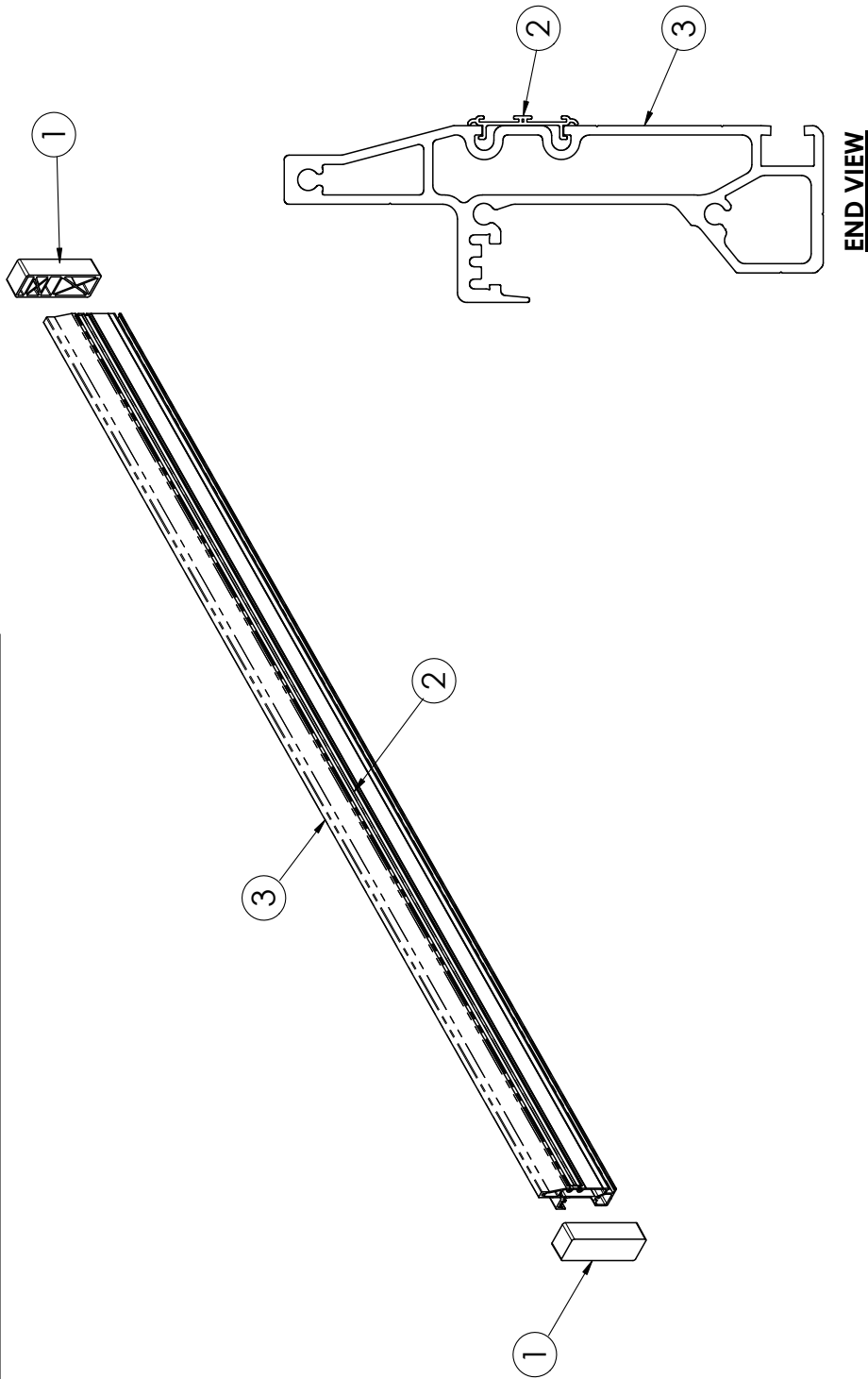
SRE-K-3001

REV. 3 (5564)(2/17/14)(DPG)

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8' RAIL ASSEMBLY (94.5"/2.4M-ACTUAL LENGTH)

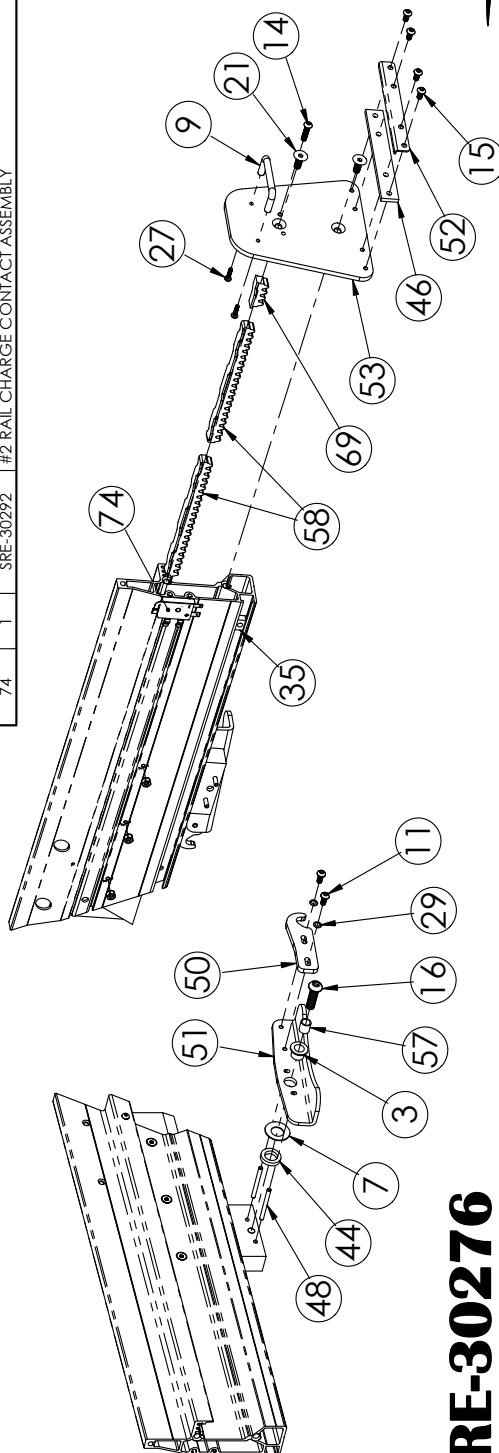
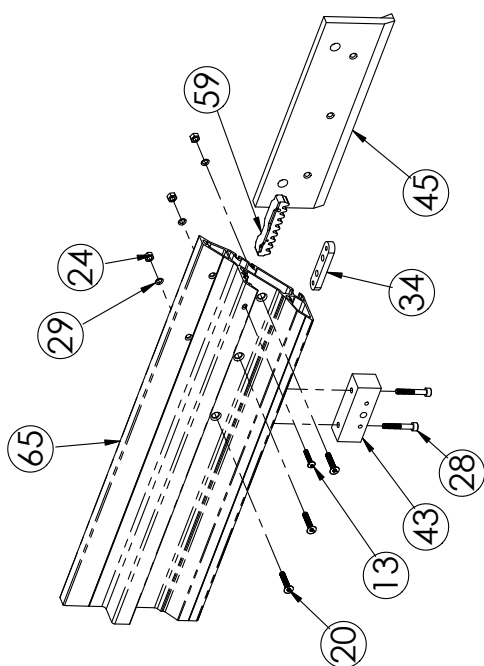
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	SRE-20942	2010 RAIL END CAP
2	1	SRE-30003	CONTINUOUS CHARGE STRIP -8' RAIL
3	1	SRE-30067	94.5" RAIL (SRE-3000)



SRE-30094
SHEET 1 OF 1
REV. 0 (ISSUED)(11/23/11)(DPG)

FOLDING RAIL ASSEMBLY - LEFT

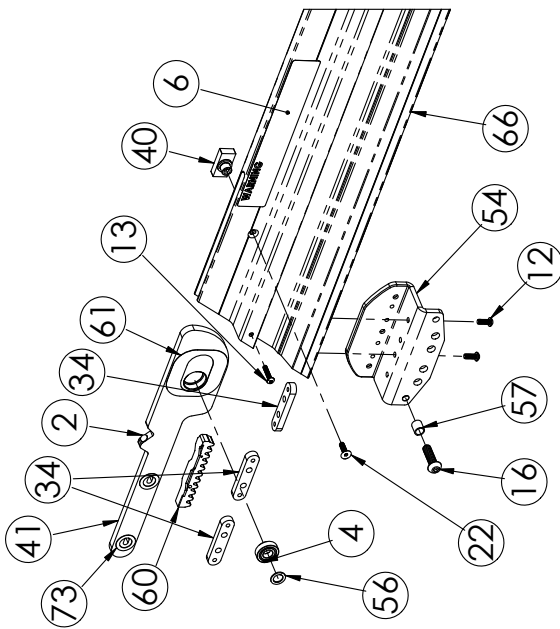
ITEM NO.	QTY.	PART NO.	DESCRIPTION
3	1	BRG-50012	FLANGE BEARING (1/2" ID X 5/8" OD X 1/2" LG)
7	1	DSW-63001	.630 ID X 1.250 OD X .040 THK (.082 HGT) BELLEVILLE DISC SPRING WASHER
11	1	HDL-00102	2.5" LG PULL HANDLE
19	2	MBHC-06005	M6 X 1 X 14MM LG SOCKET BUTTON CAP SCREW (ZINC)
13	1	MBHCL-05008	M5 X .8 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
14	1	MBHCL-06011	M6 X 1 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER (12 THDS UNDER HEAD)
15	4	MBHCL-06012	M6 X 1 X 12MM LG SOCKET BUTTON HEAD CAP SCREW (BRIGHT ZINC) W/SERVICEABLE THREADLOCKER
16	1	MBHCL-10004	M10 X 1.5 X 35MM BUTTON HEAD CAP SCREW W/SERVICEABLE THREADLOCKER (FULL THD)
20	3	MFHS-06008	M6 X 1 X 30MM LG FLAT SOCKET HEAD CAP SCREW (ZINC)
21	2	MFHS-08003	M8 X 1.25 X 20mm LG FLAT HEAD SOCKET CAP SCREW
24	3	MNPL-06100	M6 X 1 HEX NUT (PLATED)
27	2	MPLM-04001	M4 X .7 X 16MM LG PHILLIPS FILLISTER HEAD MACHINE SCREW
28	2	MSHW-06007	M6 X 1 X 40MM LG METRIC SOCKET HEAD CAP SCREW (ZINC)
29	5	MSLW-06001	6MM SAFETY WASHER (6.5MM X 10MM)
34	1	SRE-20907	NUT BAR
35	1	SRE-20909	BALL STUD NUT
43	1	SRE-30127	LATCH PIVOT BLOCK
44	1	SRE-30128	PIVOT WASHER
45	1	SRE-30129	JOINT STIFFENING BAR
46	1	SRE-30130	FLOOR GRIPPER STRIP
48	2	SRE-30132	RELEASE LATCH PIN
50	1	SRE-30134	ADJUSTABLE LATCH PLATE
51	1	SRE-30135L	FOLDING RAIL RELEASE LATCH - LH
52	1	SRE-30136	GRIP STRIP RETAINER
53	1	SRE-30138	FOLDING RAIL END CAP
57	1	SRE-30154	1/2" SHOULDER SPACER
58	2	SRE-30177	8 PITCH GEAR RACK SEGMENT
59	1	SRE-30178	FOLDING RAIL GEAR RACK SEGMENT - LH
65	1	SRE-30256	SHORT FOLDING RAIL-LEFT
69	1	SRE-30260	FOLDING RAIL GEAR RACK SEGMENT - SHORT
74	1	SRE-30292	#2 RAIL CHARGE CONTACT ASSEMBLY



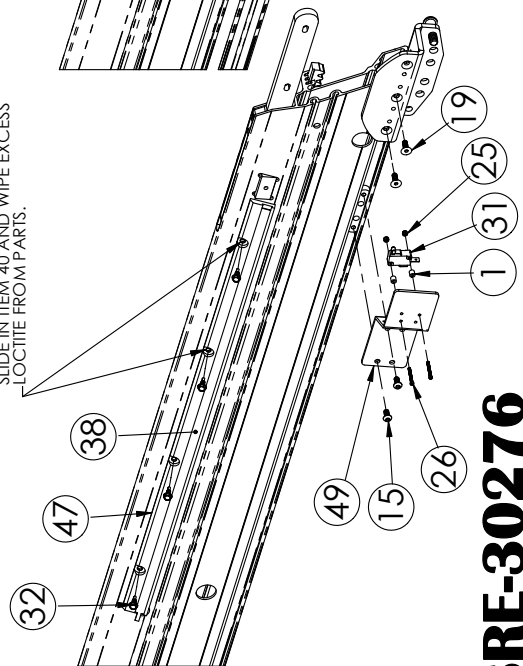
SRE-30276
SHEET 1 OF 3
REV. 5 (5798)(11/25/14)(RJH)

FOLDING RAIL ASSEMBLY - LEFT

ITEM NO.	QTY.-	PART NO.	DESCRIPTION
1	2	ASP-14001	1.40 ID X .250 OD X .250 LG ALUMINUM SPACER (UNTHREADED)
2	1	BMP-38001	.375 X .156H SELF-ADHESIVE POLYURETHANE DOME BUMPER (CLEAR)
4	1	BRG-50015	BALL BEARING 1/2" ID X 1-1/8" OD X 5/16" LG W/METAL SHIELDS (R8-ZI)
6	1	DEC-00389	FOLDING RAIL PINCH POINT WARNING DECAL
8	1	FNF-28101	.281" HOLE X .92" LG FINNED FASTENER (NATURAL)
12	2	MBHC-06006	M6 X 1 X 16mm LG SOCKET BUTTON CAP SCREW
13	1	MBHCL-05008	M5 X .8 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
15	2	MBHCL-06012	M6 X 1 X 12MM LG SOCKET BUTTON HEAD CAP SCREW (BRIGHT ZINC) W/SERVICEABLE THREADLOCKER
16	1	MBHCL-10004	M10 X 1.5 X 35MM BUTTON HEAD CAP SCREW W/SERVICEABLE THREADLOCKER (FULL THD)
19	2	MFHS-06004	M6 X 1 X 16mm LG FLAT SOCKET HEAD CAP SCREW
22	3	MFHSL-06003	M6 X 1 X 20mm LG FLAT SOCKET HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
24	2	MNPL-06100	M6 X 1 HEX NUT (PLATED)
25	2	MNSN-03051	M3 X .5 NYLON INSERT LOCK NUT
26	2	MPLM-03001	M3 X .5 X 25mm LG PHILLIPS FLUSTER HEAD MACHINE SCREW
29	2	MSLW-06001	6MM SAFETY WASHER (6.5MM X 10MM)
31	1	PBS-00136	SPST PUSHBUTTON SWITCH (POS. BREAK)
32	4	SDS-10002	#10-16 X .625 LG HEX WASHER HEAD SELF DRILLING SCREW (ZINC)
34	3	SRE-20907	NUT BAR
38	1	SRE-30121	SAFETY ELECTRICAL CONTACT - MID-RAIL
40	1	SRE-30123	FOLDING RAIL PIVOT SHAFT
41	1	SRE-30124	RAIL PIVOT BAR
47	1	SRE-30131	SAFETY CONTACT STRIP
49	1	SRE-30133	TRAVEL DISABLE SWITCH BRKT
54	1	SRE-30139	JOINT SUPPORT BRACKET
56	1	SRE-30147	PIVOT SHAFT SHIM
57	1	SRE-30154	1/2" SHOULDER SPACER
60	1	SRE-30179	MIDRAIL GEAR RACK SEGMENT - LH
61	1	SRE-30184	WASHER SHIM .015"
64	2	SRE-30255	CHARGE CONTACT STRIP - FOLDING RAIL
66	1	SRE-30257	MIDRAIL - LEFT
67	1	SRE-30258	CONTINUOUS CHARGE STRIP - SHORT RAIL LH
68	1	SRE-30259	CONTINUOUS CHARGE STRIP - MIDRAIL LH
73	2	SRE-30281	WASHER SHIM .015" X 5/8" ID X 1" OD



APPLY GREEN LOCTITE #680 (OR EQUIVALENT) TO ITEM 49 IN CHANNEL BETWEEN THESE TWO SCREW HOLES. THEN SLIDE IN ITEM 40 AND WIPE EXCESS LOCTITE FROM PARTS.



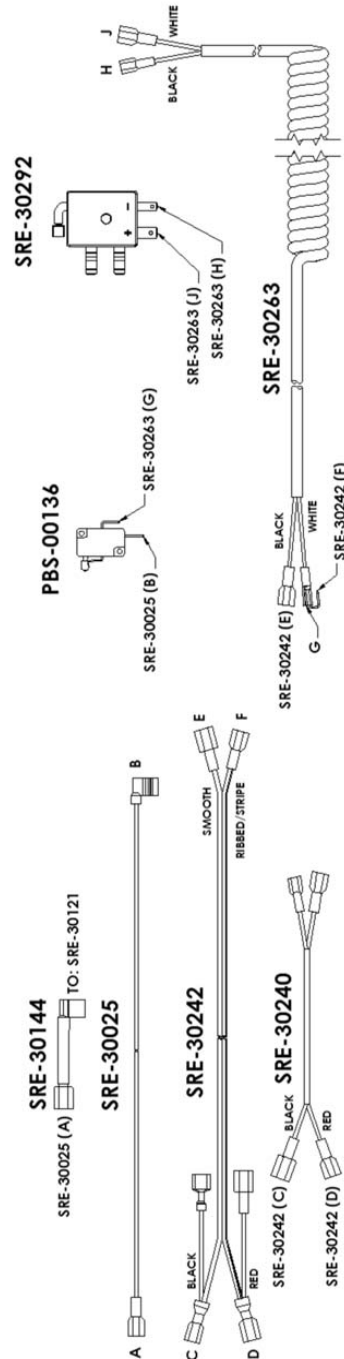
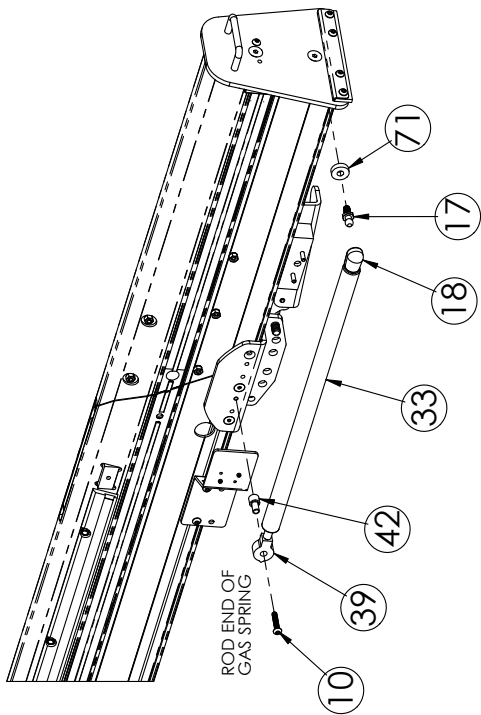
SRE-30276
SHEET 2 OF 3
REV. 5 (5798)(11/25/14)(RJH)

EXPLODED VIEW

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EXPLODED VIEW

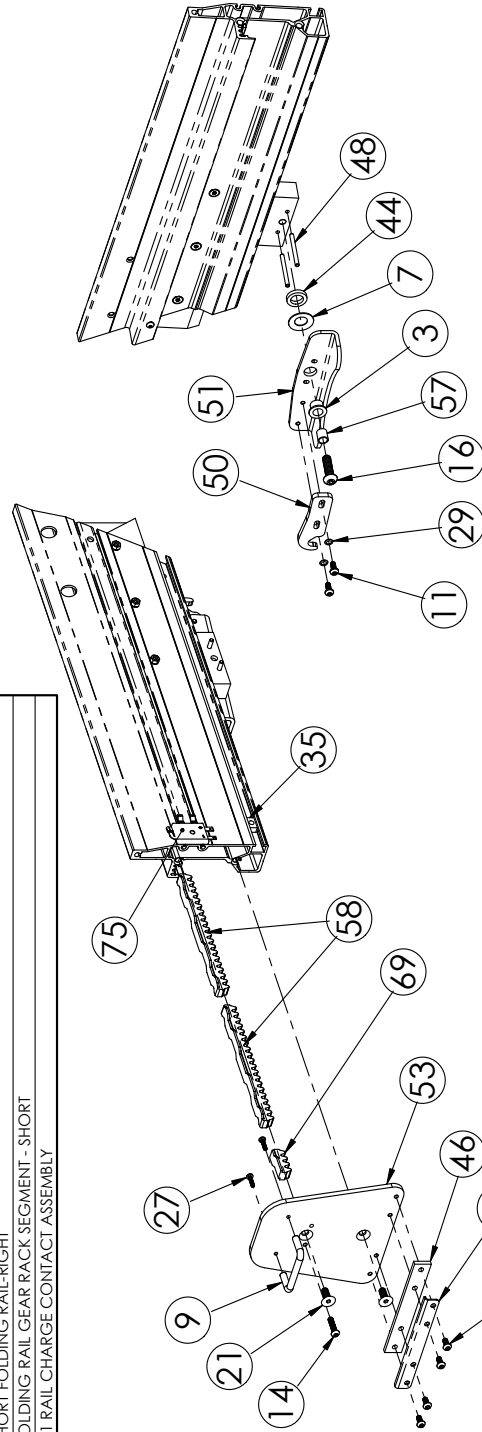
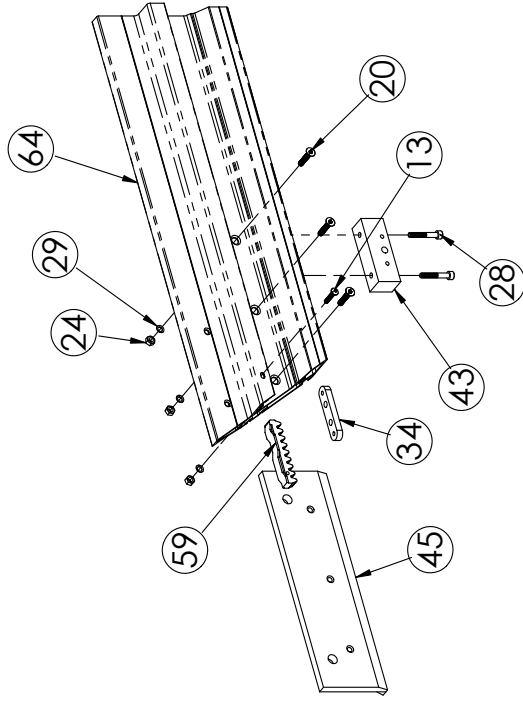
7/3	6	WRT-30002	29.75" LG WIRE TIE (.30" WIDTH)	6 LG WIRE TIE (.144" WIDTH)
76	6			



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FOLDING RAIL ASSEMBLY - RIGHT

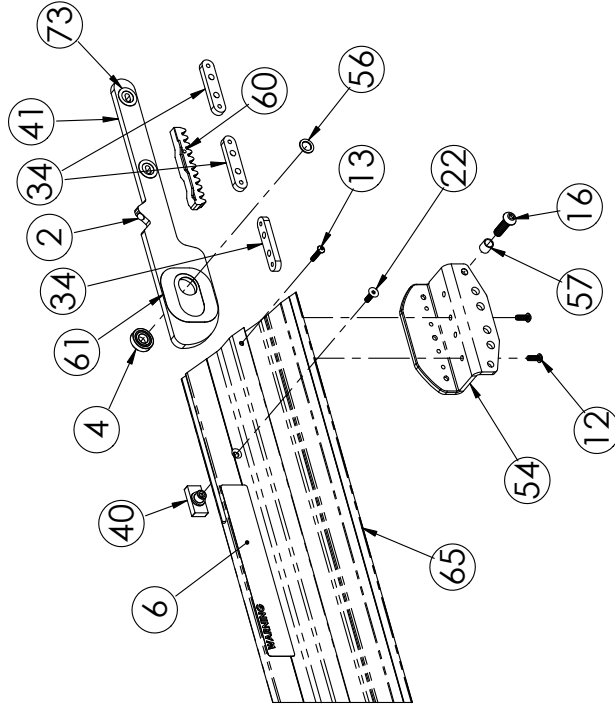
ITEM NO.	QTY.	PART NO.	DESCRIPTION
3	1	BRG-50012	FLANGE BEARING (1/2" ID X 5/8" OD X 1/2" LG)
7	1	DSW-63001	.630 ID X 1.250 OD X .040 THK (.082 HGT) BELLEVILLE DISC SPRING WASHER
9	1	HDL-00102	2.5" LG PULL HANDLE
11	2	MBHC-06005	M6 X 1 X 14MM LG SOCKET BUTTON CAP SCREW (ZINC)
13	1	MBHCL-05008	M5 X .8 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
14	1	MBHCL-06011	M6 X 1 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER (12 THDS UNDER HEAD)
15	1	MBHCL-06011	M6 X 1 X 12MM LG SOCKET BUTTON HEAD CAP SCREW (BRIGHT ZINC) W/SERVICEABLE THREADLOCKER
16	4	MBHCL-06012	M10 X 1.5 X 35MM BUTTOM HEAD CAP SCREW W/SERVICEABLE THREADLOCKER (FULL THD)
20	3	MFHS-06008	M6 X 1 X 30MM LG FLAT SOCKET HEAD CAP SCREW (ZINC)
21	2	MFHS-08003	M8 X 1.25 X 20mm LG FLAT HEAD SOCKET CAP SCREW
24	3	MNPL-06100	M6 X 1 HEX NUT (PLATED)
27	2	MPLM-04001	M4 X .7 X 16MM LG PHILLIPS FILLISTER HEAD MACHINE SCREW
28	2	MSHS-06007	M6 X 1 X 40MM LG METRIC SOCKET HEAD CAP SCREW (ZINC)
29	5	MSLW-06001	6MM SAFETY WASHER (6.5MM X 10MM)
34	1	SRE-20907	NUT BAR
35	1	SRE-20909	BALL STUD NUT
36	1	SRE-20997	NUT BAR ASSEMBLY
43	1	SRE-30127	LATCH PIVOT BLOCK
44	1	SRE-30128	PIVOT WASHER
45	1	SRE-30129	JOINT STIFFENING BAR
46	1	SRE-30130	FLOOR GRIPPER STRIP
48	2	SRE-30132	RELEASE LATCH PIN
50	1	SRE-30134	ADJUSTABLE LATCH PLATE
51	1	SRE-30135R	FOLDING RAIL RELEASE LATCH - RH
52	1	SRE-30136	GRIP STRIP RETAINER
53	1	SRE-30138	FOLDING RAIL END CAP
57	1	SRE-30154	1/2" SHOULDER SPACER
58	2	SRE-30177	8 PITCH GEAR RACK SEGMENT
59	1	SRE-30180	FOLDING RAIL RACK SEGMENT - RH
64	1	SRE-30251	SHORT FOLDING RAIL-RIGHT
69	1	SRE-30260	FOLDING RAIL GEAR RACK SEGMENT - SHORT
75	1	SRE-30291	#1 RAIL CHARGE CONTACT ASSEMBLY



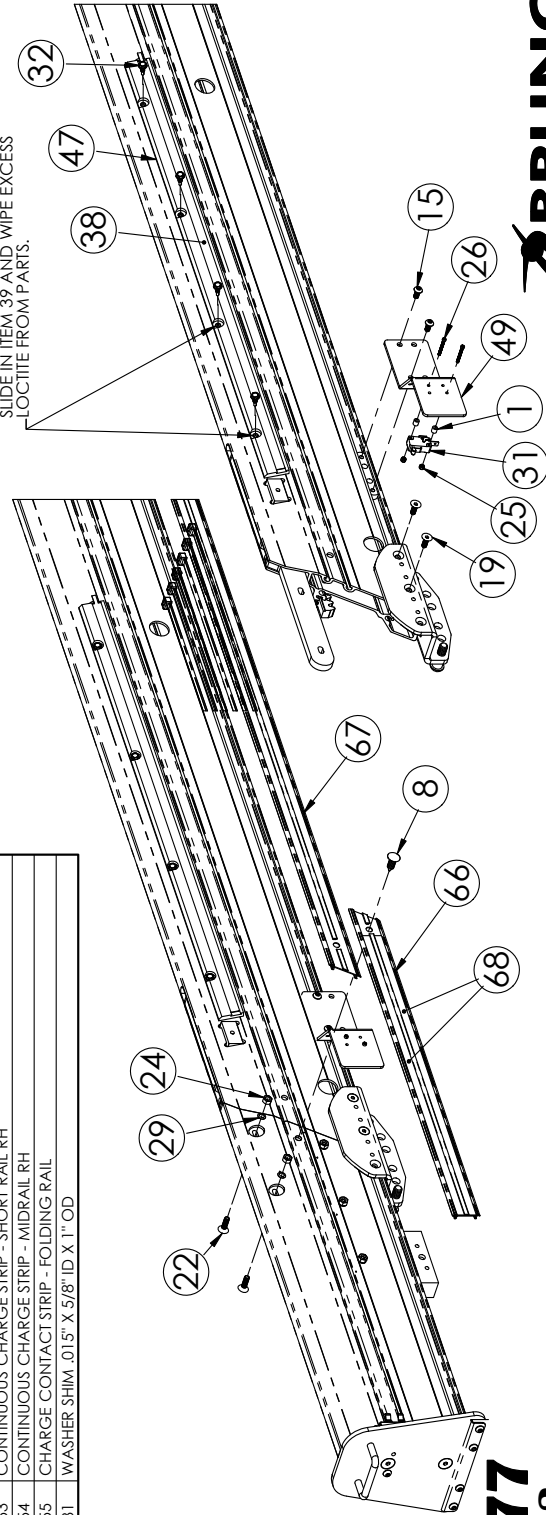
SRE-30277
SHEET 1 OF 3
REV. 5 (5798)(11/25/14)(RJH)

FOLDING RAIL ASSEMBLY - RIGHT

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	ASP-14001	.140 ID X .250 OD X .250 LG ALUMINUM SPACER (UNTHREADED)
2	1	BMP-38001	.375 X .156H SELF-ADHESIVE POLYURETHANE DOME BUMPER (CLEAR)
4	1	BRG-50015	BALL BEARING 1/2" ID X 1-1/8" OD X 5/16" LG W/METAL SHIELDS (R8-ZZ)
6	1	DFG-00389	FOLDING RAIL PINCH POINT WARNING DECAL
8	1	FNH-28101	.281" HOLE X .92" LG FINNED FASTENER (NATURAL)
12	2	MBHC-06006	M6 X 1 X 1.6mm LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
13	1	MBHCL-05008	M5 X 8 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
15	2	MBHCL-06012	M6 X 1 X 1.2mm LG SOCKET BUTTON HEAD CAP SCREW (BRIGHT ZINC) W/SERVICEABLE THREADLOCKER
16	1	MBHCL-10004	M10 X 1.5 X 35MM BUTTON HEAD CAP SCREW W/SERVICEABLE THREADLOCKER (FULL THD)
19	2	MFHS-06004	M6 X 1 X 1.6mm LG FLAT SOCKET HEAD CAP SCREW
22	3	MFHSL-06003	M6 X 1 X 1.6mm LG FLAT SOCKET HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
24	2	MNPL-06100	M6 X 1 HEX NUT (PLATED)
25	2	MNSN-03051	M3 X .5 NYLON INSERT LOCK NUT
26	2	MPLM-03001	M3 X .5 X 25mm LG PHILIPS FILLISTER HEAD MACHINE SCREW
29	2	MSLW-06001	6MM SAFETY WASHER (6.5MM X 10MM)
31	1	PBS-00136	SPST PUSHBUTTON SWITCH (POS. BREAK)
32	4	SDS-10002	#10-16 X .625 LG HEX WASHER HEAD SELF DRILLING SCREW (ZINC)
34	3	SRE-20907	NUT BAR
38	1	SRE-30121	SAFETY ELECTRICAL CONTACT - MID-RAIL
40	1	SRE-30123	FOLDING RAIL PIVOT SHAFT
41	1	SRE-30124	RAIL PIVOT BAR
47	1	SRE-30131	SAFETY CONTACT STRIP
49	1	SRE-30133	TRAVEL DISABLE SWITCH BRKT
54	1	SRE-30139	JOINT SUPPORT BRACKET
56	1	SRE-30147	PIVOT SHAFT SHIM
57	1	SRE-30154	1/2" SHOULDER SPACER
60	1	SRE-30181	MIDRAIL GEAR RACK SEGMENT - RH
61	1	SRE-30184	WASHER SHIM .015"
65	1	SRE-30252	MIDRAIL - RIGHT
66	1	SRE-30253	CONTINUOUS CHARGE STRIP - SHORT RAIL RH
67	1	SRE-30254	CONTINUOUS CHARGE STRIP - MIDRAIL RH
68	2	SRE-30255	CHARGE CONTACT STRIP - FOLDING RAIL
73	2	SRE-30281	WASHER SHIM .015" X 5/8" ID X 1" OD



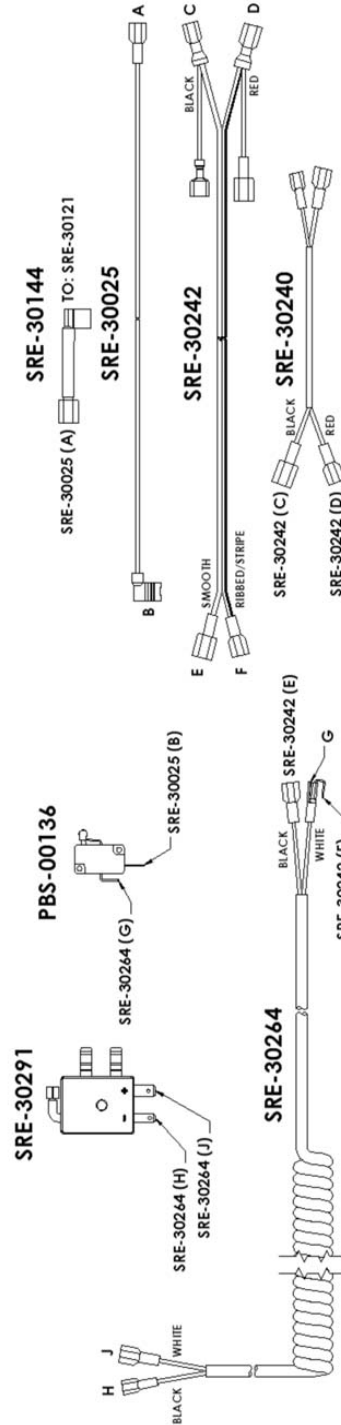
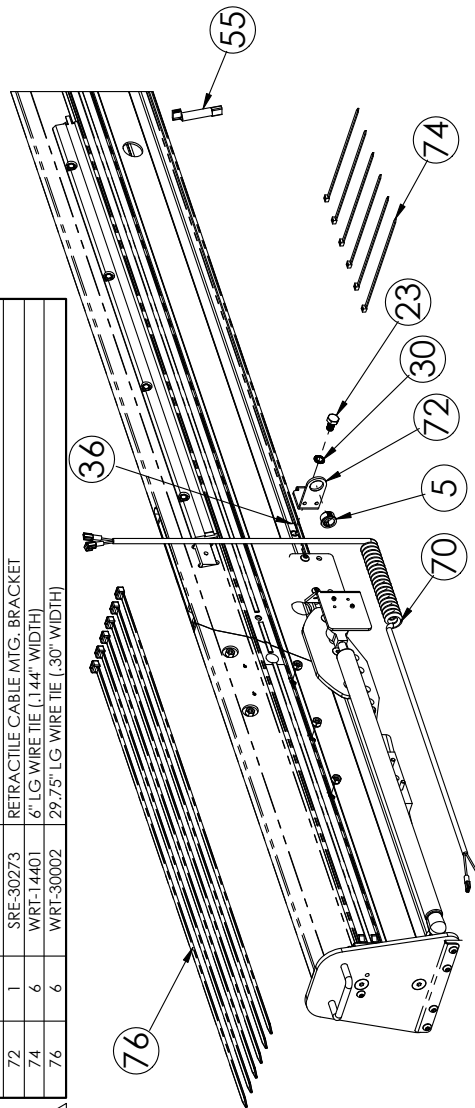
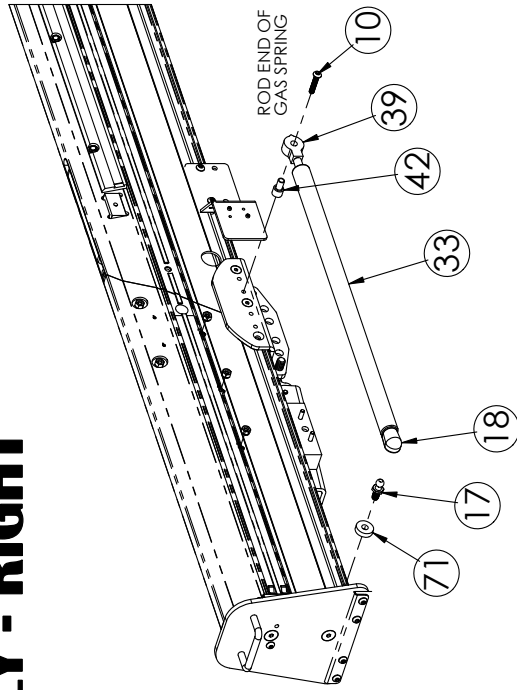
APPLY GREEN LOCTITE #680 (OR EQUIVALENT) TO ITEM 48 IN CHANNEL BETWEEN THESE TWO SCREW HOLES. THEN SLIDE IN ITEM 39 AND WIPE EXCESS LOCTITE FROM PARTS.



SRE-30277
SHEET 2 OF 3
REV. 5 (5798)(11/25/14)(RJH)

FOLDING RAIL ASSEMBLY - RIGHT

ITEM NO.	QTY.	PART NO.	DESCRIPTION
5	1	BUS-69001	11/16" SNAP BUSHING, .125 THK PANEL
10	1	MBHC-06002	M6 X 1 X .30MM LG BUTTON HEAD CAP SCREW
17	1	MBJC-10001	BALL JOINT COMPONENT - 10MM BALL STUD
18	1	MBJC-10002	BALL JOINT COMPONENT - 10MM BALL SOCKET
23	1	MHCS-08019	M8 X 1.25 X 14MM LG HEX HEAD CAP SCREW (GRADE 10.9 ZINC)
30	1	MSLW-08001	M8 SAFETY WASHER (8.4MM X 13.2MM) ZINC
33	1	SPR-00082	GAS SPRING (16.14" STROKE, 35 LB. FORCE)
36	1	SRE-20997	NUT BAR ASSEMBLY
37	1	SRE-30025	RAIL PARK HARNESS (MANUAL FOLDING RAIL)
39	1	SRE-30122	ROD END WITH CAM
42	1	SRE-30125	ROD END STAND OFF
55	1	SRE-30144	RAIL RESISTOR ASSEMBLY
62	1	SRE-30240	CHARGE CONTACT HARNESS
63	1	SRE-30242	RAIL CHARGE HARNESS (MANUAL FOLDING RAIL)
70	1	SRE-30264	RETRACTILE CHARGE HARNESS-FOLDING RAIL (RH)
71	1	SRE-30272	BALL STUD WASHER
72	1	SRE-30273	RETRACTILE CABLE MTG. BRACKET
74	6	WRT-14401	6" LG WIRE TIE (.144" WIDTH)
76	6	WRT-30002	29.75" LG WIRE TIE (.30" WIDTH)



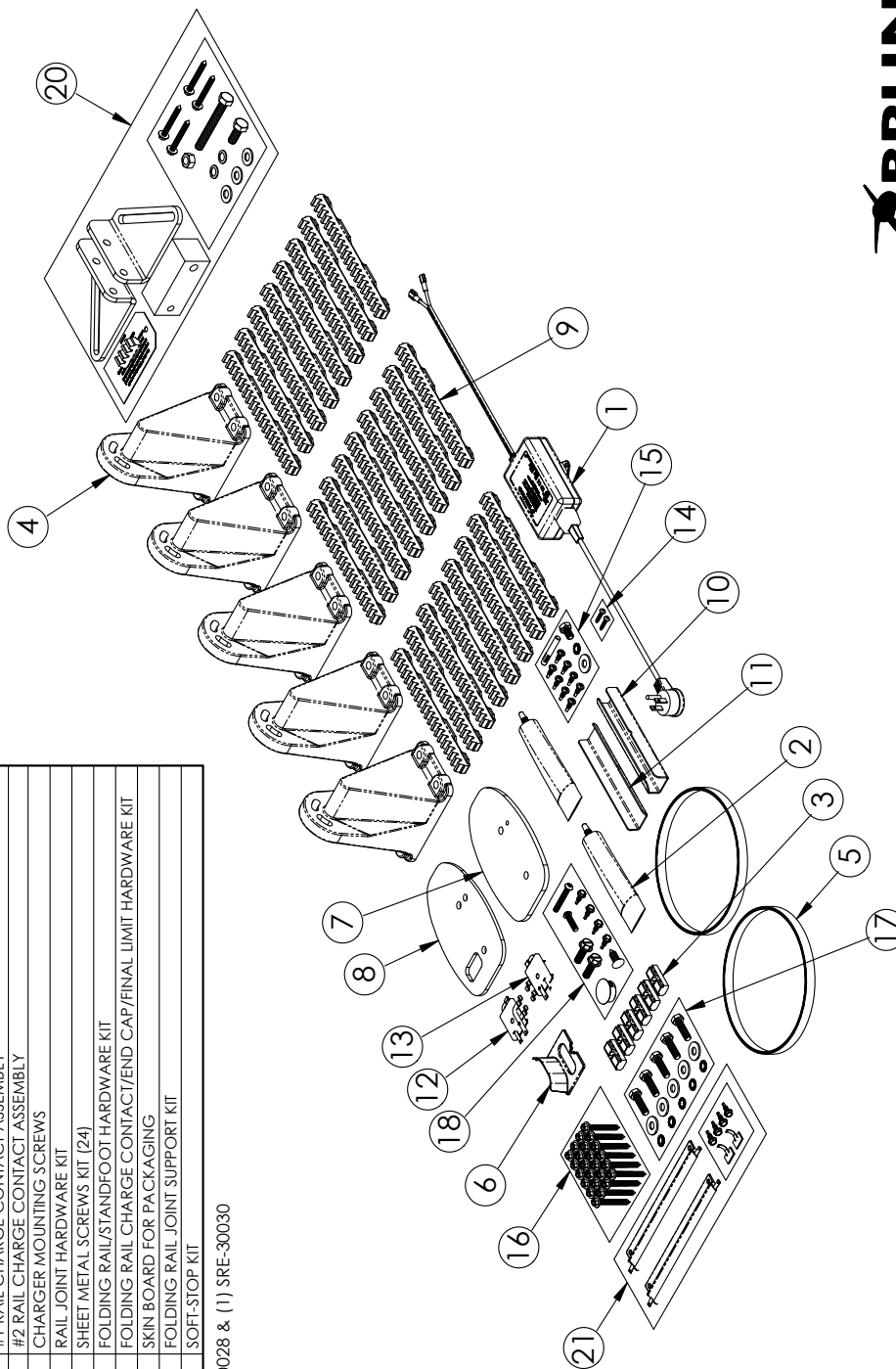
SRE-30277
SHEET 3 OF 3
REV. 5 (5798)(11/25/14)(RJH)

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FOLDING RAIL INSTALLATION KIT

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	BCR-24022	24VDC/1A 105-230VAC BATTERY CHARGER [US PLUG]
2	2	LUB-00102	LUBRI-PLATE 1.75 OZ. TUBE
3	6	SRE-20997	NUT BAR ASSEMBLY
4	5	SRE-30001	STAND FOOT
5	2	SRE-30026	CHARGE CONTACT STRIP - 20' RAIL
6	1	SRE-30029	FINAL LIMIT ACTUATOR
7	1	SRE-30055	END CAP
8	1	SRE-30137	WIRE RELIEF SPACER
9	24	SRE-30177	8 PITCH GEAR RACK SEGMENT
10	1	SRE-30235	BOTTOM JOINT BRACKET
11	1	SRE-30236	TOP JOINT BRACKET
12	1	SRE-30291	#1 RAIL CHARGE CONTACT ASSEMBLY
13	1	SRE-30292	#2 RAIL CHARGE CONTACT ASSEMBLY
14	1	SRE-K-1518	CHARGER MOUNTING SCREWS
15	1	SRE-K-3004	RAIL JOINT HARDWARE KIT
16	1	SRE-K-3014	SHEET METAL SCREWS KIT [24]
17	1	SRE-K-3021	FOLDING RAIL/STANDFOOT HARDWARE KIT
18	1	SRE-K-3026	FOLDING RAIL CHARGE CONTACT/END CAP/FINAL LIMIT HARDWARE KIT
19	1	SRE-K-3037/SB	SKIN BOARD FOR PACKAGING
20	1	SRE-K-3039	FOLDING RAIL JOINT SUPPORT KIT
21	1	SRE-K-3046	SOFT-STOP KIT

△ REMOVED (1) SRE-30028 & (1) SRE-30030



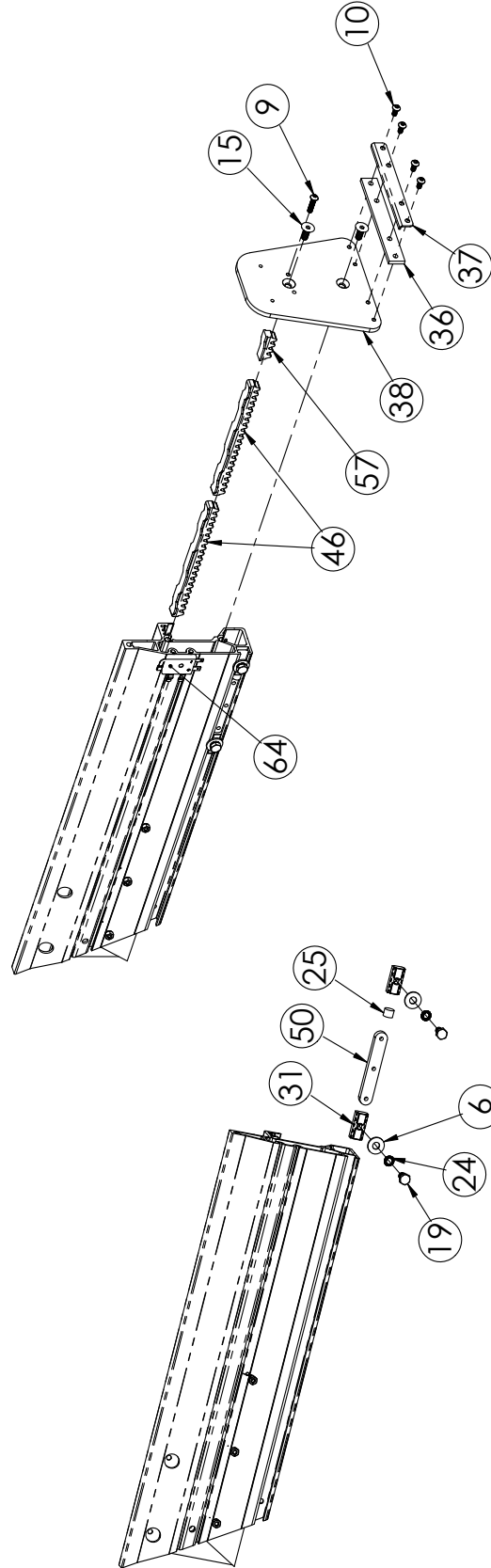
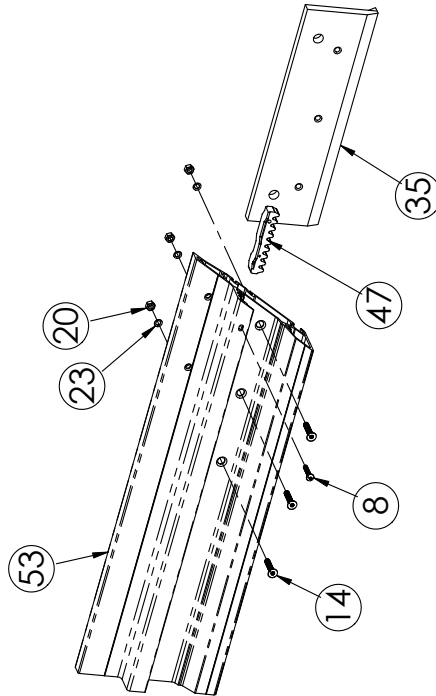
SRE-K-3037

REV. 1 (5564)(2/17/14)(DPG)

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POWER FOLDING RAIL ASSEMBLY - LEFT

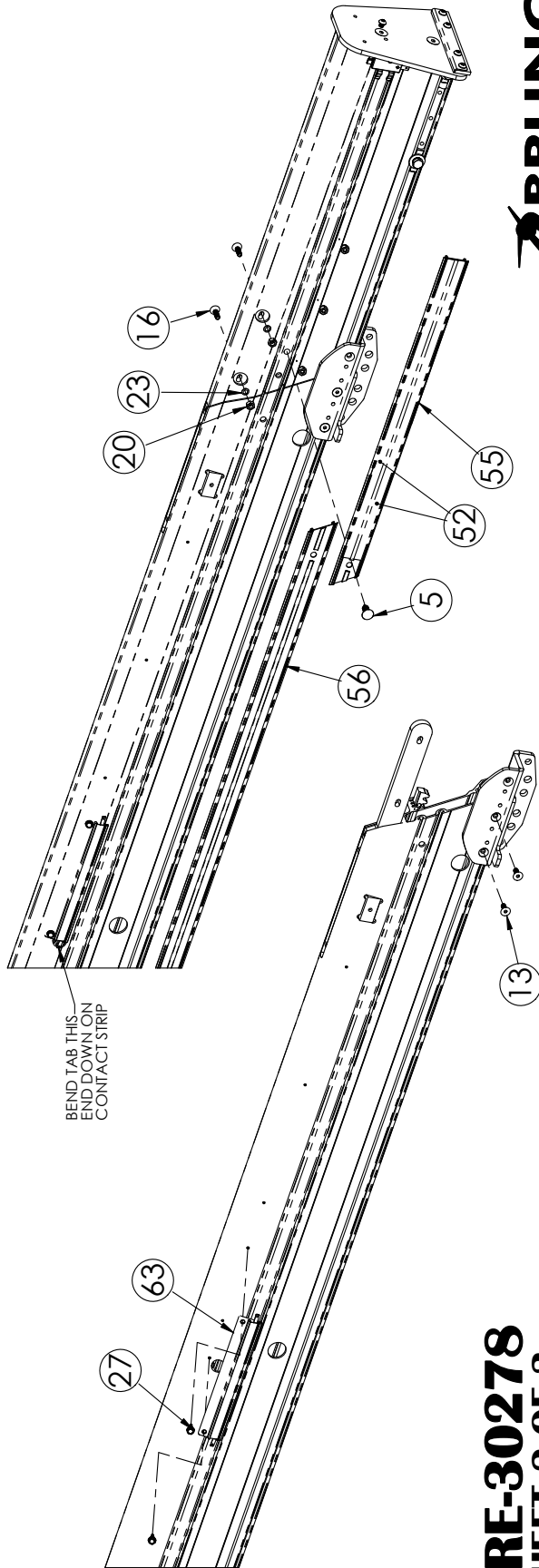
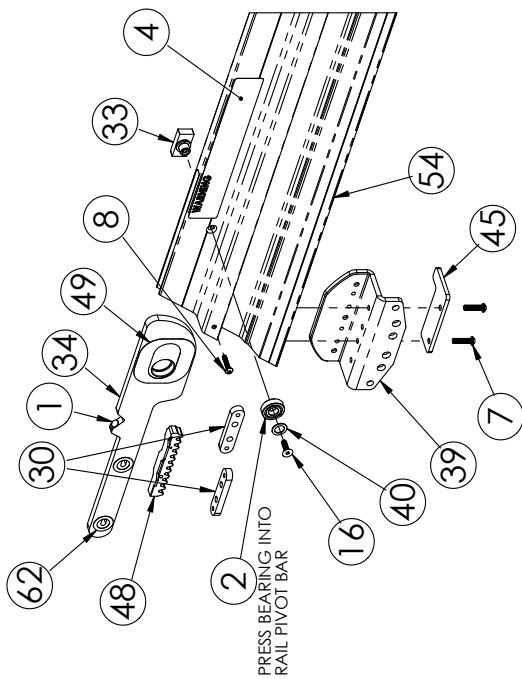
ITEM NO.	QTY.	PART NO.	DESCRIPTION
6	2	FSW-31003	5/16" FLAT HARDENED WASHER (GRADE 8) [JS20000 COATING]
8	1	MBHCL-05008	M5 X .8 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
9	1	MBHCL-06011	M6 X 1 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER (12 THDS UNDER HEAD)
10	4	MBHCL-06012	M6 X 1 X 12MM LG SOCKET BUTTON HEAD CAP SCREW (BRIGHT ZINC) W/SERVICEABLE THREADLOCKER
14	3	MFHS-06008	M6 X 1 X 30MM LG FLAT SOCKET HEAD CAP SCREW (ZINC)
15	2	MFHS-08003	M8 X 1.25 X 20mm LG FLAT HEAD SOCKET CAP SCREW
19	2	MHCS-08019	M8 X 1.25 X 14MM LG HEX HEAD CAP SCREW (GRADE 10.9)[ZINC]
20	3	MNPL-06100	M6 X 1 HEX NUT (PLATED)
23	3	MSLW-06001	6MM SAFETY WASHER (6.5MM X 10MM)
24	2	MSLW-08001	M8 SAFETY WASHER (8.4MM X 13.2MM) ZINC
25	1	PRD-50002	1/2" DIA. X 3/8" LG POLYURETHANE ROUND 80A DURO. (AMBER)
31	2	SRE-20997	NUT BAR ASSEMBLY
35	1	SRE-30129	JOINT STIFFENING BAR
36	1	SRE-30130	FLOOR GRIPPER STRIP
37	1	SRE-30136	GRIP STRIP RETAINER
38	1	SRE-30138	FOLDING RAIL END CAP
46	2	SRE-30177	8 PITCH GEAR RACK SEGMENT
47	1	SRE-30178	FOLDING RAIL GEAR RACK SEGMENT - LH
50	1	SRE-30234	ROD END NUT BAR
53	1	SRE-30256	SHORT FOLDING RAIL-LEFT
57	1	SRE-30260	FOLDING RAIL GEAR RACK SEGMENT - SHORT
64	1	SRE-30292	#2 RAIL CHARGE CONTACT ASSEMBLY



SRE-30278
SHEET 1 OF 3
REV. 4 (5798)(11/25/14)(RJH)

POWER FOLDING RAIL ASSEMBLY - LEFT

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	BMP-38001	.375 X .156H SELF-ADHESIVE POLYURETHANE DOME BUMPER (CLEAR)
2	1	BRG-50015	BALL BEARING 1/2" ID X 1-1/8" OD X 5/16" LG W/METAL SHIELDS (R8-ZZ)
4	1	DEC-00389	FOLDING RAIL PINCH POINT WARNING DECAL
5	1	FNF-28101	.281" HOLE X .92" LG FINNED FASTENER (NATURAL)
7	2	MBHC-06011	M6 X 1 X .25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC)
8	1	MBHCL-05008	M5 X .8 X .25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
13	2	MFHS-06004	M6 X 1 X 16mm LG FLAT SOCKET HEAD CAP SCREW
16	3	MFHSL-06003	M6 X 1 X 20mm LG FLAT SOCKET HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
20	2	MNPL-06100	M6 X 1 HEX NUT (PLATED)
23	2	MSLW-06001	6MM SAFETY WASHER (6.5MM X 10MM)
27	2	SDS-10002	#10-16 X .625 LG HEX WASHER HEAD SELF DRILLING SCREW (ZINC)
30	2	SRE-20907	NUT BAR
33	1	SRE-30123	FOLDING RAIL PIVOT SHAFT
34	1	SRE-30124	RAIL PIVOT BAR
39	1	SRE-30139	JOINT SUPPORT BRACKET
40	1	SRE-30147	PIVOT SHAFT SHIM
45	1	SRE-30159	ACTUATOR BACK STOP
48	1	SRE-30179	MIDRAIL GEAR RACK SEGMENT - LH
49	1	SRE-30184	WASHER SHIM .015"
52	2	SRE-30255	CHARGE CONTACT STRIP - FOLDING RAIL
54	1	SRE-30257	MIDRAIL - LEFT
55	1	SRE-30258	CONTINUOUS CHARGE STRIP - SHORT RAIL LH
56	1	SRE-30259	CONTINUOUS CHARGE STRIP - MIDRAIL LH
62	2	SRE-30281	WASHER SHIM .015" X 5/8" ID X 1" OD
63	1	SRE-30290	SLOW DOWN CONTACT ASSEMBLY

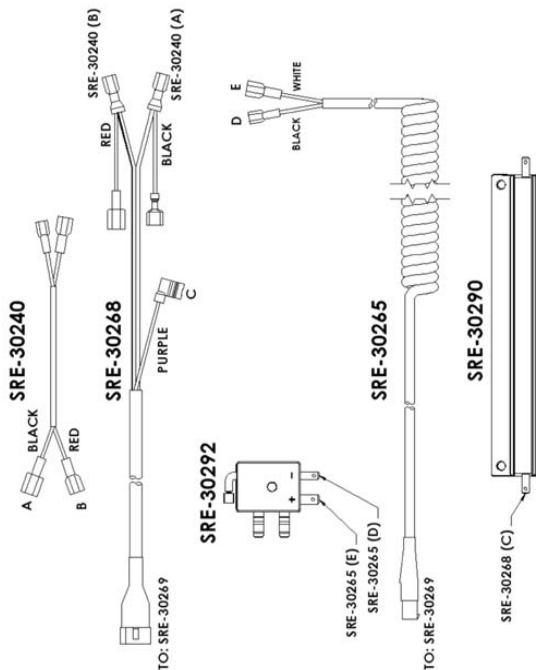
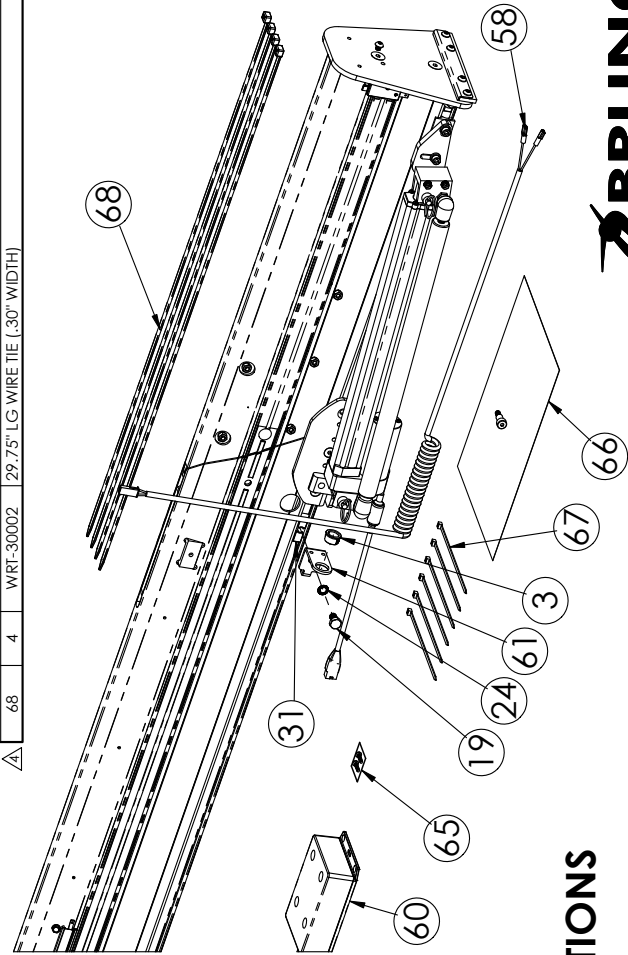
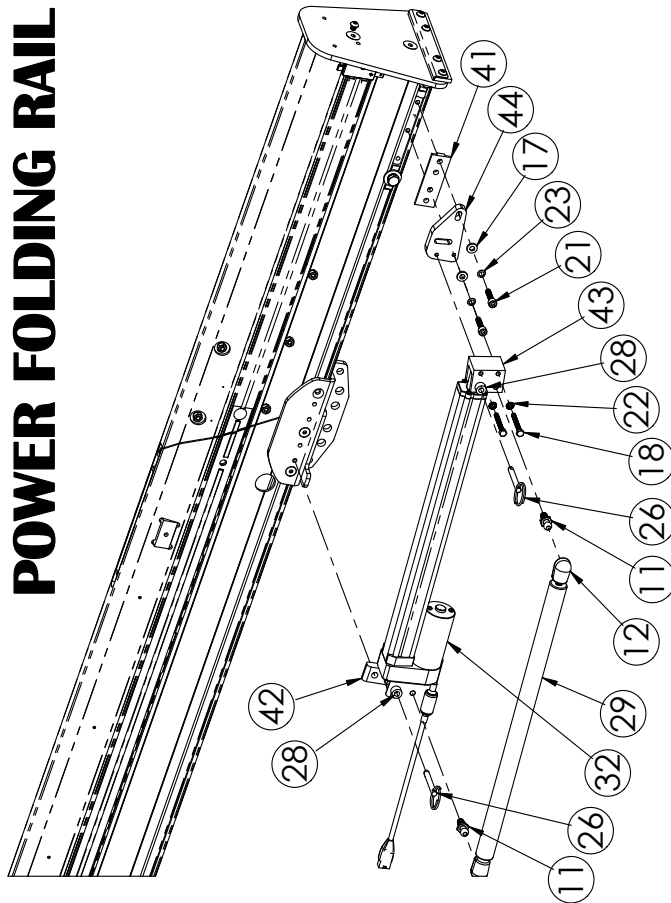


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REV. 4 (5798)(11/25/14)(RJH)

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POWER FOLDING RAIL ASSEMBLY - LEFT

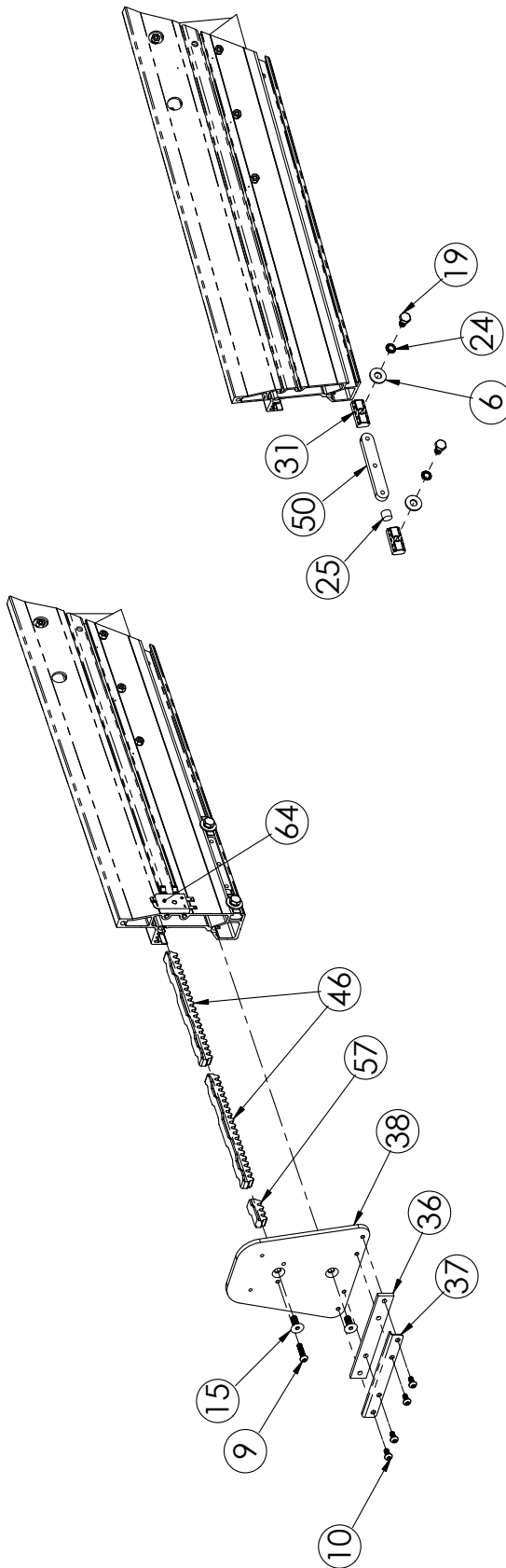
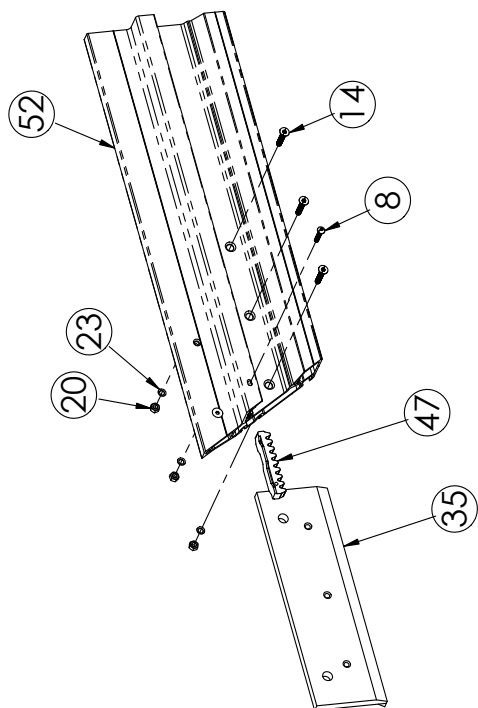
ITEM NO.	QTY.	PART NO.	DESCRIPTION
3	1	BUS-69001	11/16" SNAP BUSHING - 125 THK PANEL
11	2	MBJC-10001	BALL JOINT COMPONENT - 10MM BALL STUD
12	2	MBJC-10002	BALL JOINT COMPONENT - 10MM BALL SOCKET
17	2	MFSW-06001	M6 FLAT WASHER (HARDENED)
18	2	MHCS-05002	M5 X 8 X 40MM LG HEX HEAD CAP SCREW (ZINC)
19	1	MHCS-08019	M8 X 1.25 X 14MM LG HEX HEAD CAP SCREW (GRADE 10.9) (ZINC)
21	2	MSHS-06008	M6 X 1 X 25MM LG METRIC SOCKET HEAD CAP SCREW
22	2	MSLW-05001	M5 SAFETY WASHER (5.3MM X 9MM)
23	2	MSLW-06001	6MM SAFETY WASHER (6.5MM X 10MM)
24	1	MSLW-08001	M8 SAFETY WASHER (8.4MM X 13.2MM) ZINC
26	2	QRP-25003	.25" X 2" QUICK RELEASE PIN (w/KEY RING)
28	2	SNS-25702	NYLON SPACER .257 ID X .500 OD X .313 LG
29	1	SPR-00085	GAS SPRING (13.77" STROKE, 25 LB. FORCE, M8 THREAD BOTH ENDS)
31	1	SRE-20997	NUT BAR ASSEMBLY
32	1	SRE-21027	ACTUATOR ASSEMBLY
41	1	SRE-30155	RAIL SLOT SLIDE BAR
42	1	SRE-30156	ACTUATOR SUPPORT BLOCK
43	1	SRE-30157	ROD END CLEVIS BLOCK
44	1	SRE-30158	ACTUATOR SUPPORT PLATE
51	1	SRE-30240	CHARGE CONTACT HARNESS
58	1	SRE-30265	RETRACTILE CHARGE HARNESS-POWER FOLDING RAIL (LH)
59	1	SRE-30268	RAIL CHARGE HARNESS (POWER FOLDING RAIL)
60	1	SRE-30269	RAIL CONTROL ASSEMBLY
61	1	SRE-30273	RETRACTILE CABLE MTG. BRACKET
65	1	SRE-K-1518	CHARGER MOUNTING SCREWS
66	1	SRE-K-3032	POWER FOLDING RAIL ACTUATOR SET-UP HARDWARE KIT
67	6	WRT-14401	6" LG WIRE TIE (1.44" WIDTH)
68	4	WRT-30002	29.75" LG WIRE TIE (.30" WIDTH)



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POWER FOLDING RAIL ASSEMBLY - RIGHT

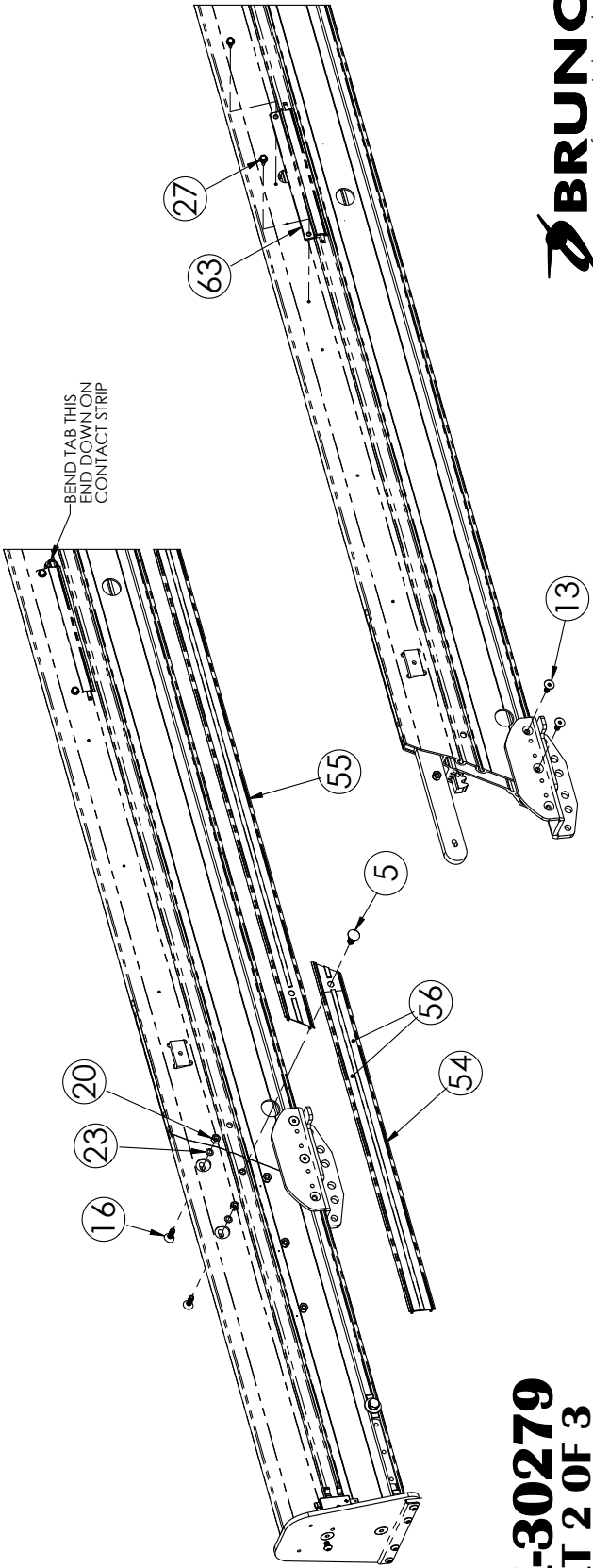
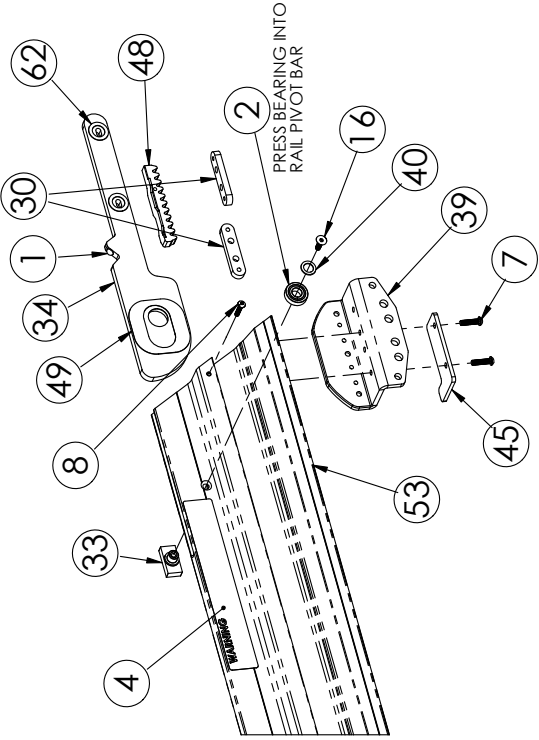
ITEM NO.	QTY.	PART NO.	DESCRIPTION
6	2	FSW-31003	5/16" FLAT HARDENED WASHER (GRADE 8) (JIS2000 COATING)
8	1	MBHCL-05008	M5 X .8 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC)
9	1	MBHCL-06011	W/SERVICABLE THREAD LOCKER
10	4	MBHCL-06012	M6 X 1 X 12MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC)
14	3	MFHS-06008	M6 X 1 X 30MM LG FLAT SOCKET HEAD CAP SCREW (ZINC)
15	2	MFHS-08003	M8 X 1.25 X 20mm LG FLAT HEAD SOCKET CAP SCREW
19	2	MHCS-08019	M8 X 1.25 X 14MM LG HEX HEAD CAP SCREW (GRADE 10.9) (ZINC)
20	5	MNPL-06100	M6 X 1 HEX NUT (PLATED)
23	7	MSLW-06001	6MM SAFETY WASHER (6.5MM X 10MM)
24	2	MSLW-08001	M8 SAFETY WASHER (8.4MM X 13.2MM) ZINC
25	1	PRD-30002	1/2" DIA. X 3/8" LG POLYURETHANE ROUND 80A DURO. (AMBER)
31	2	SRE-20997	NUT BAR ASSEMBLY
35	1	SRE-30129	JOINT STIFFENING BAR
36	1	SRE-30130	FLOOR GRIPPER STRIP
37	1	SRE-30136	GRIP STRIP RETAINER
38	1	SRE-30138	FOLDING RAIL END CAP
46	2	SRE-30177	8 PITCH GEAR RACK SEGMENT
47	1	SRE-30180	FOLDING RAIL RACK SEGMENT - RH
50	1	SRE-30234	ROD END NUT BAR
52	1	SRE-30251	SHORT FOLDING RAIL-RIGHT
57	1	SRE-30260	FOLDING RAIL GEAR RACK SEGMENT - SHORT
64	1	SRE-30291	#1 RAIL CHARGE CONTACT ASSEMBLY



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POWER FOLDING RAIL ASSEMBLY - RIGHT

ITEM NO.	QTY.-	PART NO.	DESCRIPTION
1	1	BMP-38001	.375 X .156H SELF-ADHESIVE POLYURETHANE DOME BUMPER (CLEAR)
2	1	BRG-50015	BALL BEARING 1/2" ID X 1-1/8" OD X 5/16" LG W/METAL SHIELDS (R8-ZZ)
4	1	DEC-00389	FOLDING RAIL PINCH POINT WARNING DECAL
5	1	FNF-28101	.281" HOLE X .92" LG FINNED FASTENER (NATURAL)
7	2	MBHC-06011	M6 X 1 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC)
8	1	MBHCL-05008	M5 X .8 X 25MM LG SOCKET BUTTON HEAD CAP SCREW (ZINC) W/SERVICEABLE THREADLOCKER
13	2	MFHS-06004	M6 X 1 X 16mm LG FLAT SOCKET HEAD CAP SCREW
16	3	MFHSL-06003	M6 X 1 X 20mm LG FLAT SOCKET HEAD CAP SCREW
20	2	MNPL-06100	M6 X 1 HEX NUT (PLATED)
23	2	MSLW-06001	6MM SAFETY WASHER (6.5MM X 10MM)
27	2	SDS-10002	#10-16 X .625 LG HEX WASHER HEAD SELF DRILLING SCREW (ZINC)
30	2	SRE-20907	NUT BAR
33	1	SRE-30123	FOLDING RAIL PIVOT SHAFT
34	1	SRE-30124	RAIL PIVOT BAR
39	1	SRE-30139	JOINT SUPPORT BRACKET
40	1	SRE-30147	PIVOT SHAFT SHIM
45	1	SRE-30159	ACTUATOR BACK STOP
48	1	SRE-30181	MIDRAIL GEAR RACK SEGMENT - RH
49	1	SRE-30184	WASHER SHIM .015"
53	1	SRE-30252	MIDRAIL - RIGHT
54	1	SRE-30253	CONTINUOUS CHARGE STRIP - SHORT RAIL RH
55	1	SRE-30254	CONTINUOUS CHARGE STRIP - MIDRAIL RH
56	2	SRE-30255	CHARGE CONTACT STRIP - FOLDING RAIL
62	2	SRE-30281	WASHER SHIM .015" X 5/8" ID X 1" OD
63	1	SRE-30290	SLOW DOWN CONTACT ASSEMBLY

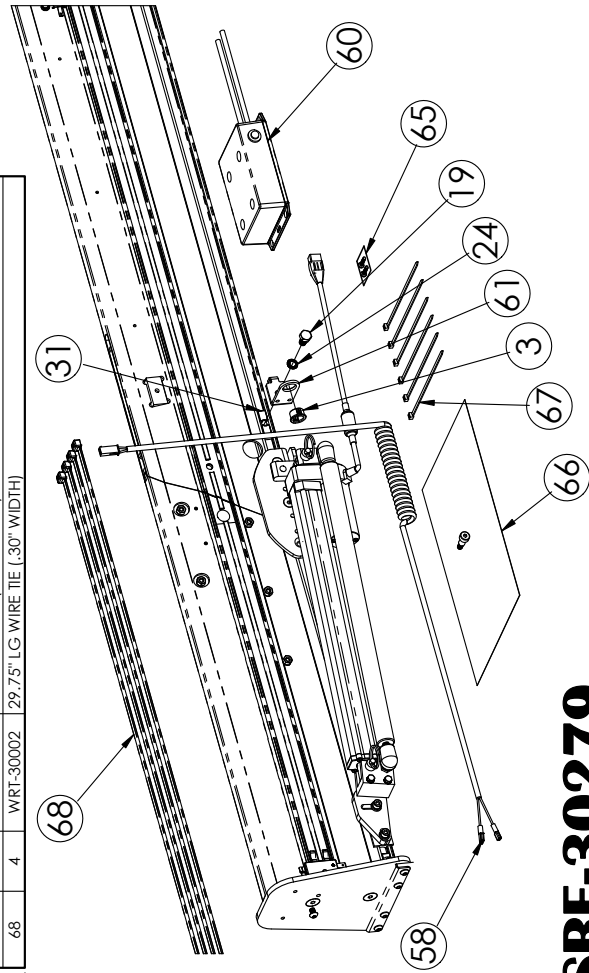


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AIL ASSEMBLY - RIGHT

This diagram illustrates the assembly sequence for the right side of an aircraft wing. The components are numbered 1 through 44, indicating the order of installation. Key parts include:

- 1**: Main wing structure/rib.
- 2**: Small fastener or pin.
- 3**: Small fastener or pin.
- 4**: Small fastener or pin.
- 5**: Small fastener or pin.
- 6**: Small fastener or pin.
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- 34**: Small fastener or pin.
- 35**: Small fastener or pin.
- 36**: Small fastener or pin.
- 37**: Small fastener or pin.
- 38**: Small fastener or pin.
- 39**: Small fastener or pin.
- 40**: Small fastener or pin.
- 41**: Small fastener or pin.
- 42**: Small fastener or pin.
- 43**: Small fastener or pin.
- 44**: Small fastener or pin.

4

ELECTRICAL CONNECTIONS



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BRUNO GOLD LIMITED WARRANTY FOR STAIRLIFT 5 Years Major Components — 2 Year Parts

Bruno Independent Living Aids, Inc.© (Bruno) is so confident in our USA designed and built units that we provide every original buyer with the following "Industry Leading" warranty for your peace of mind.

The quality of parts we use and the care our employees take allow Bruno to provide the original buyer of its Bruno Stairlift with a **2-year warranty** that all parts are free of defects in material and workmanship.

Because of the reliability found in Bruno's Stairlift product Bruno is able to provide the original buyer with an extended **5-year warranty** of the Major Components of the product, to include the motor/gearbox drive train and rail system. Bruno's warranty periods begin with **the date of the installation** of the Bruno Stairlift.

Bruno Authorized Dealers are trained to evaluate your unique situation and then install the best Bruno product to meet your needs. The trained installation and service technicians employed by Bruno Authorized Dealers have the appropriate equipment and resources needed to correctly install and maintain your new stairlift and are the first contact for any warranty or service needs.

SPECIFICS OF THE WARRANTY COVERAGE:

- ◇ All Parts are free of defects in material and workmanship for a period of two years after the date of installation.
- ◇ All MAJOR COMPONENTS are free of defects in material and workmanship for a period of five years after the date of installation.
- ◇ All labor to address any product defect by a Bruno Authorized Dealer is covered for the first 30 days after installation.

WHAT IS NOT WARRANTY COVERAGE:

- ◇ Damage to units caused by misuse, abuse, accidents, neglect or modifications NOT made by a Bruno Authorized Dealer.
- ◇ Consumable items such as remote batteries.
- ◇ All labor by a Bruno Authorized Dealer after the first 30 days since installation.
- ◇ Reasonable wear and tear.

ADDITIONAL NOTES:

All Service and Warranty issues are handled through the Bruno Authorized Dealer that installed the unit.

- ◇ In no event shall Bruno be responsible for indirect, incidental or consequential damages, whether such damages arise based on claims based on contract, warranty, tort (including negligence, strict liability or product liability).
- ◇ Bruno reserves the right to replace, repair or, if not commercially practical and/or feasible, to elect to refund the purchase price at its sole discretion.
- ◇ This warranty gives the original buyer specific legal rights, and you may also have other rights which vary from state to state. Bruno specifically does not authorize any person to extend the time or scope of this warranty.

For more detailed information regarding this limited warranty, please contact Bruno by writing:

Bruno Independent Living Aids, Inc.
Attn: Service Department
1780 Executive Drive
Oconomowoc, WI 53066 USA
or call: 1-800-882-8183 toll free

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P/N 3000-I